

**DIET & OPIUM**  
**IN**  
**INTESTINAL OBSTRUCTIONS**

---

**HUGH OWEN THOMAS.**

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DIET AND OPIUM  
IN  
INTESTINAL OBSTRUCTIONS





The  
PAST AND PRESENT  
TREATMENT  
OF  
*I*ntestinal *O*bstructions,  
REVIEWED,  
WITH AN  
IMPROVED TREATMENT INDICATED,  
By  
HUGH OWEN THOMAS.



LONDON:  
H. K. LEWIS, 136 GOWER STREET.  
1877.

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Dedicated

TO HIS FRIEND

THE REV. A. J. PARRY,

OF CLOUGHFOLD,

BY

THE AUTHOR.



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“ And what is more conduicible to perfection, then the knowledge of symptomes, with their names and natures: in such wise that knowinge the nature of the infirmity, there may thereby, throughe naturall reason, (ye though there were no practice,) be procured a speedy remedye: Oh that ever we shoulde call our selves men of science, and yet as though there were no science, we be ignorant of those thinges that we shoulde chiefly knowe, being planted amongst us.

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For though some may note it a kinde of presumption, to vary from the common opinion; yet may I answer with Aristotle, that Plato is my friend and so is Socrates; but the truth before them bothe. And as mine opinion agreth with the truth, I wishe it onely accepted, and where it will not stand with reason and truth, to be rejected as an untruth, and a thing not worthy of credite.”



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## P R E F A C E .

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This paper originally appeared in the Liverpool and Manchester Medical and Surgical Reports, and is a review of the past and present treatment of gut occlusions, and also an epitome of the method of treatment matured and practised by the author during the last seven years. Observation of clinical occurrences gradually forced him to the policy of treatment advocated here. He regrets that his spare time will not permit him to do justice to a subject so difficult of treatment, and so fatal under the present method of aid, as it is only too plain that, even at this date, in many cases the sufferer has to contend not only against the complaint, but if he invites professional assistance, this sometimes adds to the difficulty, further testing his powers of endurance. Every remedy, mechanical and therapeutical, is tried, and

should the patient live the last practised or given is lauded and credited with the result ; but should he succumb, his attendant reports he has done his duty, by trying many or every mode and medicine. The literature of this subject informs practitioners of recoveries of so many cases involving occlusions of the gut, and where a serious degree of lesion was present, that it is reasonable to expect that with an improved method of aid the mortality in these difficulties may be much diminished. It is notable that the therapeutical remedies administered, frequently have been given by wilfully ignoring their physiological effects ; consequently, on the occurrence of a slight variation in the attendant symptoms, the remedy is changed, when perchance the correct one may be substituted for one that is injurious. This change of hands is continued so long as the difficulty lasts or the patient lives. Success depends not only upon the use of the proper method and remedy, but in knowing how to use each, so as to be able to control the symptoms, so prolong life, and further, be able to detect early the medicinal loss of control over the symptoms, and then operate. The demonstrations of Brinton have instructed the profession in the mechanism and causes of obstruction in these hollow viscera, while the experiments of Dr. Harley

and the late Professor Bennett have given the profession sufficient data as to the physiological and toxic effects of the principal neurotics, and now they can be given by the sub-cutaneous method with confidence, once the prescriber has decided the rationale of treatment. But to Sydenham should be conceded the credit of first advocating the use of the remedy that has given, and can give, the most successful results, while Nelaton has left us a "dernier resort," should therapeutical aid fail, in the operation of gastro-enterotomy, conjoined with an ignoring of the locality of the lesion. (part occluded). This operation whether performed early or late will not in all probability add any more to the risk already present. The author inclines to the belief that some cases which have terminated fatally, though the obstructions were relieved, and where a post-mortem examination showed nothing to account for non-success, may be explained by the supposition that the sufferer was one of low vitality, not having in store sufficient stamina to withstand the shock of the derangement of so important and large a portion of the chylopoetic viscera, this conjoined with the fact that the defect often extends over a period of many days or weeks. It is an argument for early operation, say about the fifth day,

should the patient's history and appearance, &c., not indicate much stamina. Many readers may think that perhaps the author's comments upon the practice of gentlemen whom they may deem better able than him to give instruction on this question, indicates an exceeding confidence on his part. They may think that he "rushes in where angels fear to tread." His excuse is, that hitherto the "angels" have by no means trod gently when traversing this ground. Clinical observation is open to all, and is an inexhaustible field which has and will always repay the careful and unprejudiced explorer. Here was gained the experience which enables the author to assert the principles of treatment, urged with such confidence in these pages.

11, NELSON STREET,

LIVERPOOL.



## The Review.

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Hippocrates refers to ileus and its treatment, but to my mind it is very apparent he was not able to distinguish between a loaded rectum and what in latter times is affirmed to be ileus. Yet, it is evident that when he treated a case of genuine ileus, his treatment was as far astray, as that of most of his successors, which is apparent from his mentioning the seventh day as being usually the limit of the patient's endurance.

His treatment consisted principally of inflating the intestines, and the administering of enemata. The same treatment seems to have been practised by Celsus, Paulus Ægineta, and Aretæus. The last though he says that

“In ileus it is pain that kills, along with inflammation of the bowels, straining and swelling ;”

yet, informs us that no “respectable physician” would administer a narcotic except in extreme cases.

Until we come to a date so late as the 17th century, this complaint seems to have been looked upon as nearly always fatal. The father of English

medicine Dr. Sydenham, appears however to have been in advance of many physicians living even in our own times. He appears to have used opium freely, and with marked success in intestinal irritation, much in the same way as the late Dr. Brinton would have practised, but with this exception, that the former, on most occasions, commenced with a sharp purgative, for the purpose, as he says, of clearing the way for the action of other remedies. One original remedy he refers to, and reports highly of, but which Dr. Brinton very properly ignored, is the application of a live kitten to the stomach during the continuation of any vomiting, insisting upon the necessity of not removing this pleasant companion until the vomiting should cease. As a contrast to this harmless advice, and indicative of Sydenham's careful clinical observation, I quote his remarks on the value of enemata. In his "Medical Observation" he says:—

"Hence I have more than once remarked that the repetition of even the mildest glyster has induced serious symptoms."

Here he not only anticipates all modern teachers, but also surpasses them in this one item of rational treatment. My own experience is that the administration of a single enema of water only may give rise to serious symptoms. On two occasions (in my own practice) serious symptoms

occurred, though the water given as an enema in one case, did not exceed four ounces in the other twenty ; both cases were fatal ; yet did well up to this injurious interference.

He records that in the month of August, 1671—

“The most noble Baron Annesly, who was suffering some days from bilious colic, accompanied by intolerable pain and a frequent desire to vomit, sent for me to see him at Belvoir Castle. He had already tried two kinds of glysters and other remedies to boot, and these had been ordered to him by the most learned medical men of the parts around. I made no difficulty in prescribing the repeated application of narcotics after the plan described, by the use whereof he mended every day, and returned along with me to London a healthy man.”

He reports another case :—

“A poor neighbour of my own, who is still living, was during the years in question afflicted with a most violent bilious colic which he had tried in vain to subdue by purges, glysters and swallowing leaden bullets. I ordered him to use narcotics frequently ; this he did, and as often as he did so, found himself relieved. The disease, however, was only palliated not cured, it returned when the virtue of the anodyne was spent.”

The author records that this case ultimately recovered by this treatment.

Dr. Sydenham's methods, despite his determination at the commencement of treatment to get rid of “peccant humour” by purging, and the application of the Sydenham placebo, a live kitten, appears to have been the best treatment up to the advent of Dr. Brinton's demonstration. But I have reason to believe that his treatment fell into disuse among those practitioners immediately after his

time, probably he would be the only one of his contemporaries that practised the opium method, for we find some of them—as for example, James Cook, Surgeon—commenting on the treatment of ileus, stating that “narcotics have no place in colic,” the specifics advised were composed of the dried viscera and appendices of animals, powdered and mixed in sack. Probably, Mr. Cook would be one of those gentlemen to whom Sydenham refers as

“learned men of the parts around.”

After making diligent search among the records of cases reported during the 18th century, and the early part of the present century, I have failed to find any account of cases of intestinal obstruction treated by Sydenham’s method, or by any approach to it. Among those I examined were the “MEDICAL PHYSICAL JOURNAL,” the “LANCET,” the “MEDICAL TIMES,” “THE BRITISH MEDICAL JOURNAL,” and some other medical periodicals; but I have not been able to find the record of a single case of intestinal obstruction, no matter from what cause, treated by the administration of opium only, and combined with the utmost possible prolonged rest of the parts affected. The discussion of this subject by the Royal Medico-Chirurgical Society of



London, reported in the "LANCET," of the 18th December, 1875, apprised me for the first time that the rationale of the treatment of this difficulty by opium was not known even to leaders in the profession. From the report of that discussion, as given in the "LANCET," it is obvious that the treatment of Intestinal Obstructions has retrograded since the death of Dr. Brinton.

Dr. Brinton's volume on Intestinal Obstructions is undoubtedly not so well known as it should be among the profession; and it is my opinion that few questions have ever been so thoroughly and exhaustively demonstrated as the one to which Dr. Brinton's work is directed; yet, though the author promulgated his views in the Croonian Lectures, delivered before the College of Physicians in 1867, it is shewn both by the discussion before referred to, and the reports of our weekly Medical periodicals, that the treatment of Intestinal Obstructions has not advanced from where it was previous to his researches.

By the death of this talented physician, which took place while the republication of his lectures was in progress, the medical department of our art lost an able and most persevering demonstrator of a rational and successful method of treating these cases. It is not a matter of surprise to me, that in

the discussion before the Royal Medico-Chirurgical Society, some gentlemen doubted the correctness of Dr. Brinton's statistics. This may be accounted for by the fact that the method of treatment which he demonstrated as being necessary to increase the probability of success has been generally ignored, which has certainly more than trebled the mortality.

In the volume for 1853 of the "BRITISH MEDICAL JOURNAL," page 433, Mr. Joseph Hinton gives a table of cases of Intestinal Obstructions, with a brief outline history of 137 cases, inclusive of herniæ. Over 100 of these were cases of intussusception, volvulus and enteritis ; the remainder were herniæ, malignant tumours, and strictures ; yet, in not one of these cases was an exclusively opium treatment tried.

Some of the cases are recorded as having been treated with opium and bleeding, but on reference to the source of information I notice that calomel and enemata were also used.

Mr. Hinton's table is both instructive and interesting to those having a special interest in the subject.

In order to illustrate how little Brinton's discoveries have influenced the treatment of this disease, I append a condensed report of a case long anterior to his time, and recorded in the

“ MEDICAL PHYSICAL JOURNAL,” 1824, page 116 :—  
ENTERITIS.—The treatment commenced on the

First day—Bleeding, purgative, enema, and jalap powder.

Second day—An enema of tobacco water.

Third day—Castor oil, opium, and purgative draught.

Fourth day—Purgative draught.

Fifth day—Bleeding.

Sixth day—Anodyne enema.

Seventh day—Laudanum injection, bleeding, and calomel.

Eighth day—bleeding, cold applications, calomel, common salts, senna, tobacco injection.

Ninth day—Tobacco injection, enema of salts and senna, calomel and antimony.

Tenth day—Doses of calomel, antimony, castor oil, extract of hop.

Eleventh day—Castor oil only.

Twelfth day—Purgative draught.

Thirteenth day—Purgative draught, and apple dumplings.

Fourteenth day—Sore in the mouth, but convalescent.

The reporter of this case states in page 120 of the same volume, that the purgatives were “ sparingly used.” What must a liberal system of purgation have been in those days? With the treatment above set out, wonderful to relate, the patient recovered. There was no action of the bowels until the fourteenth day; in fact, not until the probable period of resolution.

Another sample of the treatment adopted about that period is reported in the “ LANCET,” vol. 16 p. 145. The patient was suffering from supposed enteritis, and he was treated with

Hot fomentations, five grains of calomel, and purgative on the first day.

And this was repeated on the second day. On the third day there was a repetition of this treatment, with the addition of an enema night and morning. Fourth day—calomel, colocynth, castor oil, enemas. On the fifth day a change of tactics took place. The body was immersed in warm water, and the abdomen rubbed with oil, followed by the administration of croton and castor oils. On the sixth day a powerful purgative, and an enema were given. On the seventh day, croton and castor oils with enema of aloes. On the eighth day, another change of front took place; scammony, gamboge, senna, magnesia, and tincture of rhubarb were freely administered; and on the ninth day, croton oil. After the administration of which we are informed that “despite the treatment, the patient sank at 10 o’clock.” Two hours before his death an anodyne was given. This is an illustration of the treatment in 1828.

These two reports may be compared with what is done in our own time. We take for example a case reported in a number of the “LONDON MEDICAL RECORD,” June, 1877, page 233, when on the

First day—the treatment commenced with castor oil and enema. Second day—croton oil, two enemata of senna, and soda sulph in the morning and evening; the same day third enema of senna and soda sulph, and belladonna to the skin over abdomen. Third day—calomel, jalap and belladonna every two hours, and insufflation of air; the intestines being distended by forty strokes of the bellows. Fourth day—enemata and purgative pills and insufflation, this latter was repeated “with redoubled energy.” Fifth day—thrice action of the bowels. Sixth day—“the belly was electrified, and an enema of mercury,” which produced abundant motion and blood. Seventh day—“a glass of castor oil.”

The treatment failed in this case to kill the patient. He recovered.

Again, in “LANCET,” for the year 1876, a case of

Intussusception of the large intestine is reported. The treatment adopted was copious warm soap and water injections. The case was fatal, the post mortem examination showing that an advanced degree of recovery had taken place, and that had even an expectant policy been practised, there was a great probability that the patient might have recovered.

In the same volume, in the column devoted to correspondents, another case is mentioned, the treatment of which was commenced by an enema of castor oil and turpentine, an 'internal compound to stimulate the intestines,' the enema being repeated while the patient was sinking.

It may probably be fresh in the memory of the reader, the report given in the 'BRITISH MEDICAL ASSOCIATION JOURNAL' of the treatment adopted in the case of the late Madame Du Devant (better known as George Sand). In her case, evidently one of the elite of the profession was invited from Paris to her Chateau, near Mohant, to assist "the learned men of the parts around" as to the treatment to be adopted, with the result, it appears to me, of a repetition of that treatment which some of the contributors to the 'Medical Physical Journal' of 1824 would have advised. In fact, the patient's chance of recovery would have been better had she had no advice at all, rather than the injurious interference

to which she was subjected.

I will take another example from a recent number of the 'DUBLIN JOURNAL OF MEDICAL SCIENCE,' in which a case of Intestinal Obstruction is recorded which was treated.

On the first day with enemata of "various kinds," "purgatives of different sorts," "including castor oil, scammony, calomel, and croton oil." This treatment was continued for several days, when a change of plan seems to have been decided upon, and extract of opium was given by the mouth every fourth hour. On the sixth day a return was made to the previous treatment with purgatives; rubbing the bowels with warm oil had been constantly persevered with, during intervals of the administration of medicines. Sometime between the 6th and 9th day, the distended abdomen was relieved of gas by puncture, and the opium treatment was again resorted to; then about the 10th day, galvanism was applied. On the 15th day, castor oil and rhubarb were administered, with the result of producing a return of most of the symptoms which had begun to abate. This case, wonderful to relate, survived the treatment.

From the foregoing examples and others which have come under my notice during the last ten years, I am convinced that there are very few in the profession who are acquainted with Brinton's labours, and fewer acquainted with the correct treatment of this disease, and many who are cognisant of his views want the confidence to apply them un-deviatingly in practice.

Having myself, in my earlier practice, previous to my study of Brinton's work, used the methods of purgation, (though never in the heroic manner that I have noticed in others) I can confidently say that the opium method involves as great



a probability of success, as the other methods increase the improbability of the patient's recovery.

The 'BRITISH MEDICAL JOURNAL,' of July last, contains the report of a very instructive case of intestinal lesion partially treated by opium, for perusing it I notice that the treatment was commenced by calomel, opium, and enemata on the first day, the enemata being repeated twice the same day, and the latter being repeated on the day the practitioner judged the patient had been relieved of the difficulty.

This case is the nearest approach to Dr. Sydenham's method that I have met with amongst reported cases, and very strongly confirms the opinion that I have formed during my own experience, that in the majority of these cases the administration of opium by the month is of little avail, having but slight control over the complaint. Judging from the symptoms recorded, I should class this case as one of enteritis progressing to resolution unaffected by opium. I have frequently met with cases in which, from some cause, opium given by the month in large medicinal doses seemed to have none of its usual physiological or therapeutical effects.

These examples indicate that the treatment in the early part of the present century differed in no way from that of our time, except that we have added to

the treatment another objectionable feature—Galvanism. It may be interesting to notice the practice in use twenty years ago, but it seems to vary but little from the practice in vogue in the present year.

This can be further shown by a comparison of the paper contained in the 'BRITISH MEDICAL ASSOCIATION JOURNAL' for 1853, p. 117, where is recorded a series of nine cases. I append a condensed account of each.

The first case was treated by opiates and enemata, with metallic mercury, and the patient took 7 lbs. of this metal and yet recovered.

The second case was treated by calomel, colocynth, black draught, castor oil, enemata, turpentine stupes, and a pint of newly fermented yeast, and recovered.

The third case was treated by calomel, opium, castor oil, and enemata, and proved fatal, the patient succumbing in 12 hours.

The fourth case was treated with purgatives, and died on the third day.

In the fifth case nearly all the list of purgatives was tried, also quicksilver and tobacco enemata, and the patient died on the sixth day.

The sixth case was treated by purgatives, and proved fatal in thirteen hours after the commencement of the treatment.

The seventh case was treated with purgatives and tobacco enemata, and also proved fatal.

The eighth case was treated with purgatives, and opium, and proved fatal.

The ninth case was treated with mild aperients, opium, and enemata, and was fatal on the third day.

In comparing the treatment of these cases with that of one reported and discussed before the Clinical Society of London so late as last October, and reported in the 'LANCET,' of the 21st of the same month, I am forced to the conclusion that we are not improving upon the treatment practised in times

gone by, but rather, retrograding. This case, the details of which were discussed before the Clinical Society, appears to have been diagnosed as one of intestinal obstruction, and yet the details of treatment were, daily enemata, hot fomentations, castor oil, croton oil, turpentine; the passage of a long tube up the bowels, inverting the patient and shaking her in the inverted position, trocaring the bowels, kneading and manipulating the abdomen, galvanism with the intention, it is reported, of exciting peristaltic action, the administration of extract of aloes, and a combination of enemata and kneading; and still more remarkable, it is reported that death occurred suddenly and unexpectedly on the 59th day, despite this heroic treatment. Surely, death could only be expected, as, to all the remedies so trying to the patient's powers of endurance, there existed also a very serious complaint,

In no recorded case but this can I recollect such a systematic negation of the principles which should guide us in the treatment of such cases, and it is certainly notable that in the discussion which followed the reading of the report, none of those engaged in it are reported as having dissented from the mode of treatment, although the editor of Dr. Brinton's volume took part in the discussion. It appears to me that Dr. Brinton's valuable demon-

stration, as far as its practice is concerned, has been buried with him. This patient's remarkable power of endurance both of the treatment and complaint terminated at the end of 59 days. I should judge from the report, that, under a more rational treatment, even if ultimate recovery was not possible, life could have been prolonged three times that period. Dr. Brinton asserts:—

“With all the resources of medicine directed to the sustenance of life, and in a constitution of exceptional tenacity, I am persuaded that a duration of at least 4 months would be attained.”

He further adds that:—

“The treatment hitherto practised has trebled the rapidity of the malady.”

It is astonishing what control opium has over the pain, vomiting, and other symptoms which usually accompany these difficulties, even when, as in this case, ultimate recovery is not probable. In confirmation of my assertion as to how imperfectly the principles of treatment are understood in the present time, I subjoin a quotation from Dr. J. S. Bristowe's recent volume on the Theory and Practice of Medicine, published last year, advising treatment for Intussusception, page 728.

“In those cases, however, in which the symptoms of obstruction come on vaguely and without evidence of association with inflammatory mischief, it is generally advisable to commence the treatment with the administration, either by the mouth or rectum, of moderately powerful purgatives, and to persist in this treatment until, by their failure to act, and by their causing vomiting and painful but fruitless peristaltic movements, their inefficacy is distinctly shown. It sometimes happens that, after drastic purgatives have failed, a large dose of

some simple laxative, such as castor oil, acts with singular efficacy. In aid of this treatment, hot baths, fomentations, or ice or electricity to the surface of the belly, and voluminous enemata of gruel or of water may severally be employed. If those measures are without avail, it is generally advisable to give the bowels rest, and to relieve pain by the repeated use of adequate doses of opium or of belladonna; the persistence in which treatment will, by relieving spasm, or otherwise promoting the return of some length of bowel to a comparatively healthy condition, not unfrequently result, after a shorter or longer time, in an effectual and sufficient evacuation. If this treatment fail in its turn, it may be necessary again to solicit the action of the bowels by the employment of purgative medicines, enemata, and the like. Such is the routine which must be generally followed in cases of simple obstruction, in which the cause of obstruction is obscure; and in many cases also even when the cause is distinctly ascertained."

Here we are advised to commence with powerful purgatives, and to persist in their use until we have evidence of their injurious action, then mild laxatives can be tried, and to aid all these by hot fomentations, electricity, and enemata, failing in all these, opium and belladonna are to be given; after which if they fail, a return to purgatives and enemata, &c., is counselled. In fact, it may be noticed that there is, in the treatment recommended, an utter absence of any systematic method based on the etiology of the difficulty under consideration. These lesions are of such serious import to life that it were better to practice an expectant method, than to incur any risk by giving remedies not based **on** rational ground or successful clinical or experimental observation. Many cases have been reported as having recovered even after the most inefficient treatment, which to my mind



is strong evidence that with a more rational treatment the mortality would be decreased.

As an instance of remarkable recovery from Intussusception, there is recorded in volume 16 of the 'LANCET,' p. 7, a case in which three feet of intestine, with a portion of its messentery attached, came away. This case is reported by a Professor of Anatomy a guarantee that it was intestine that was passed. In volume 11, p. 565, Mr. Abernethy reports a case where a portion of the intestine sloughed and came away. The treatment is not given in either of the above cases.

In the transactions of the 'BRITISH MEDICAL PROVINCIAL ASSOCIATION,' 7th volume, a case is reported of recovery after five inches of intestine had passed, though treated by the purgation method.

My friend, Dr. Turnour, of Denbigh, informed me that he had a case where a large portion of intestine sloughed and came away; his treatment being the administration of opium, the use of which he strongly advocates in these lesions. Dr. Bristowe, in his recent volume, reports on the authority of Dr. Peacock, of London, a case in which the sufferer passed twelve feet of gut, and recovered. This extraordinary and unprecedented report induced in me some doubt of its correctness. I communicated with Dr. Peacock, who very readily favoured me

with a reprint of his paper "A case of invagination of the intestines followed by the passage of a large piece of bowel by the rectum," originally published in Transactions of the Pathological Society, vol. xv. From a perusal of his paper I find that instead of twelve feet, the portion passed measured only thirty-five inches. The author gives us a short history of twenty cases of invagination with sloughing of portion of intestine. Case 18 is reported on the authority of Drs. Harley and Bristowe, as having passed the almost incredible length of four feet, with recovery; the period of separation in these 20 cases varied from the sixth to the thirtieth day. One case is mentioned in which

"portions were passed at intervals during a period of three years."

In my opinion, this was a case of chronic catarrh of the bowels, attended with the occasional passage of casts of the intestines. In case 18, where four feet of gut is reported to have passed per rectum, this might also have been a large cast of the bowel; but as the previous history of the patient is not given, it is not possible to form a decided opinion. My own doubts arise from the report, which describes the portion when examined "as the mucous membrane not the whole of the bowel."

As to the causes of Intestinal Obstructions, the immediate ones are generally peritonitis, enteritis,



paralysis of the muscular fibres of the bowel from contiguous inflammation, occurring in the condition of peritonitis, enteritis, or after herniæ reduction, or operation. Paralysis may also arise from over distension, from compression during and previous to reduction of, or after operation for herniæ, invagination, rents in mesentery, twisting of the gut, stricture, and malignant growths. It has too frequently hitherto been thought that obstruction arising from herniæ is practically on a safe way to resolution after reduction or operation, when in my opinion the reduction or operation frequently only places the patient in a condition fit for rational therapeutic treatment, and he should be treated by the opium method, and dieted as strictly after reduction or operation as though it were the first day of any of the varieties of obstruction before enumerated.

Some writers mention spasm as present in enteritis and lead colic, &c., and a cause of obstruction in some cases. My own conviction is, that spasm is never a cause of obstruction, and if its occurrence is granted, its presence in enteritis is impossible, as the inflammation would temporarily suspend muscular action. Our knowledge of the etiology of lead colic, does not as yet justify any one in asserting or denying the occurrence of spasm in this condition. Tobacco has usually been judged

a valuable and efficient remedy in this disease ; if this is correct, it rather negatives than confirms the spasm theory, inasmuch as tobacco is a stimulant of the muscular coat of the intestine. The treatment of lead colic is no exception to that of any of the other varieties of intestinal lesions. I have always, in these cases, followed a mode of treatment exactly the same as that here advocated for Intestinal Obstruction, with unvarying success. My appointment as Medical Officer to a "Benefit Society," composed exclusively of painters, has given me a few extra opportunities of noticing the effect of opium in these cases during seven years. At one time I tried alum in lead colic, a remedy much advocated by the late Dr. Inman, but failed to find that it had any effect in the disease, more than an expectant method would have.

A diagnosis of the existence of intestinal irritation or obstruction is not always easy at its onset, and may easily, and in my opinion often does, escape notice ; especially a slight acute or a chronic condition of peritonitis or enteritis, which is often considered as merely general malaise, and so not subjected to special treatment which would avert a more serious condition at a later period.

The subjective symptoms usually present at the onset of intestinal complications are a feeling of fulness,

weight, and tightness of the abdomen, as though its contents were heavier than usual, slight thirst, headache, and vomiting more or less frequently. These, if not relieved, are followed by the objective symptoms : tenderness on pressure, perceptible distention, at first gaseous, and then fluid and gas. These are the general symptoms present in the majority of cases, and may become intensified by injurious, continued from neglect, or diminished by appropriate treatment. As, for instance, where purgatives are administered they aggravate the above symptoms, without one exception, and prolong the recovery of the patient, or ensure his dissolution at an earlier date than would have been the case had he been neglected, or appropriately treated.

Neglect, is attended with symptoms of lesser severity than those present during inappropriate treatment, while with appropriate treatment all the symptoms become much diminished in intensity and frequency, and the patient often has such relief that without a knowledge of his history and an examination of the abdomen, the practitioner would not believe him to be a subject of suffering. It is certainly easy, with ordinary care, to diagnose even at the onset the coming intestinal difficulties, but the attainment of a differential diagnosis is difficult.

Here I am conscious of my own deficiencies, and that also the same defect is only too apparent in the writings and teaching of others.

Those who have studied the records of reported cases will probably have noticed that a differential diagnosis is generally arrived at after some days of treatment and careful watching of symptoms ; as, for instance, in peritonitis and enteritis, where we have principally gaseous distension with evacuations at an early date, and a gradual relief of distension. (I am supposing the opium treatment is practised.) In invagination there is a longer period of constipation, nearly normal temperature and pulse, also the abdominal distension is mostly fluid and a sudden relief of distension occurs. In the various forms of constricted gut and volvulus, collapse occurs at a time corresponding in period to that of herniæ collapse, and indicating that operative interference is advisable. It may be broadly stated that a differential diagnosis is easier guessed than demonstrated.

Under the circumstances it is a source of satisfaction to know that a differential diagnosis of the varieties of occlusions is not necessary to successful treatment. It may be asserted, as a general rule, that the treatment is similar for all the varieties of intestinal complication.

Accumulations of fæces whether in the gut or rectum may be classed as a form of obstruction, but can be differentially diagnosed, as it is nearly always accompanied by pain parturient in character with intervals of perfect ease. It is also palpable as a tumor like swelling, if the abdomen is examined by careful manipulation ; or if a case of rectal accumulation digital exploration of the rectum reveals its character at once, simple accumulation requires no treatment beyond abstinence from solid food, occasional enemata, and the withholding of purgatives by the mouth. This form of obstruction may, by injudicious treatment, be converted into some of the other forms.

The mechanical remedies usually employed in the treatment of these obstructions are, medicated enemata, inflation with air or carbonic acid gas, the administration of liquid mercury, the passage of O'Byrne's tube, the inversion of the patient and shaking him ; and one of our medical periodicals lately reported the administrations of copious enemata of warm water whilst the patient was in the inverted position. Trocaring the intestine, galvanism, kneading, external applications, and gastrotomy, may be classed among mechanical remedies for intestinal obstruction. To these I may also add a remedy which I claim as peculiarly my

own, namely, that of retaining the patient upon an inclined plane, the shoulders and head being dependent, and the pelvis elevated ; this position I have observed to be of decided advantage in severe cases.

It is with some diffidence that I differ from so high an authority as the late Dr. Brinton with regard to the value of enemata in these cases, whether they be administered for the purpose of diagnosis, or supplying nourishment, or giving sedative medicine, or for mechanical purposes, even should they be but two or three ounces in bulk they may again cause the recurrence of all the symptoms that the sedative medicine may have controlled. In the treatment of these affections they should, in my opinion, be totally discarded in every form and for all purposes, whether the bowel below the obstruction, which it seldom is, be loaded or not. Should there be some accumulation below the obstruction, this accumulation can do no harm. Most of my readers will agree with me that it is the accumulation above—not below the obstructed part, which constitutes the difficulty in occlusions ; and interference with the contents below, readily excites peristaltic action, even in the parts above the obstruction, and adds to the practitioner's difficulties in successfully treating the case.



I have observed that the passage into the rectum of even a soap suppository, to cause a return of symptoms that had been controlled. Indeed the call for nutritive enemata is never so urgent in these cases as to justify this practice, pain is the principle cause of emaciation and death, not starvation, and it will I think be granted that with the suitable forms of aliment now so readily supplied to us by art, and with opium to allay the pain and its sympathetic irritation, it would take a very long period to seriously emaciate the patient. On this head there should be no anxiety, as we know that from 14 to 60 days is the usual period of recovery or death, which results from the lesion, but never from emaciation ; and it may be laid down as an axiom, that the more the patient abstains from imbibition and aliment (though suitable,) the sooner his recovery, and, consequently, a shorter period of abstinence, and return to the usual routine of diet will be attained.

Dr. Brinton has very properly remarked :—

“Nature herself is preparing within the obstructed bowels the best of all purgatives, the most admirably adapted by its quantity and quality—and especially its consistence, to accomplish whatever an aperient can do towards opening a passage.”

My own opinion, based upon my observation in practice is, that it should be the study of the practitioner to restrain the action of the bowels so long



as possible, as by so doing he decreases the consistancy of the abdominal contents, and so makes more safe, certain, and gentle, the action of the aperient when the time arrives ; that prolonging the constipation is no longer possible. For myself, I have never noticed, where constipation has been well maintained by opium beyond the 14th day, the patient pass solid fæces ; it has always been liquid or pultaceous.

As to the proceeding by inflation it appears to me a useless torture. With regard to the value of quicksilver, this can only accumulate at the obstructed point, and is, by its weight more difficult of expulsion by vomiting than the accumulated liquid already there ; and this the patient must relieve himself of by occasional vomiting.

Sydenham thus comments on the value of this remedy :—

“ Whatever may be said about bullets and quicksilver; things which whilst they can effect but little good, can do much harm.”

The passing up the rectum far into the colon of O'Byrne's tube, I cannot and never could see its purpose, not even in a loaded and over-distended, consequently a temporarily, paralyzed rectum. As a general rule, in the latter condition it is a spoon or spatula that is wanted; or should the load be too high to be reached by the spatula, frequently

repeated doses of diluents by the mouth, enemata and abstinence from solid aliments and purgatives must succeed, opium in this condition would prolong unnecessarily the treatment.

Inversion of the patient has been practiced frequently of late in supposed intussusception. This, to have any chance of success, must be practiced very early, within a few hours, and previous to agglutination between the intussuscepted parts ; otherwise, as has been demonstrated, it may be impossible to reduce the intussusception even when the bowels are under direct manipulation as after operation. Inversion with shaking, if practiced at a late period, should it succeed in reducing the invagination, the result might be calamitous to the patient, as agglutination and absorption with or without sphacelus may have taken place ; and to confirm this opinion, I refer the reader to an early number of the "LANCET," for 1876, in which is reported a case of intussusception where gastrotomy was performed, yet the invagination could not be reduced immediately after operation, or afterwards at the post-mortem ; in fact, the case was in progress to spontaneous cure had it not been operated on. In the 12th volume of the "LANCET," p. 580, Charles Bell, in a lecture on Intussusception, emphatically objects to mechanical inter-

ference, as advocated by Hunter. The following are his words :—

“ At a certain period, if the contraction were fairly in your hand you cannot undo it.—Fixed by inflammation, and then no power, I believe, that you have will undo it.”

Sydenham and Charles Bell appear to give correct explanations to several questions in the etiology of this subject, anticipating Dr. Brinton ; as, for example, Sydenham explains the mechanism of vomiting ; and again, Charles Bell lucidly instructs us as to the mode of formation of, and subsequent changes in invagination. Again, the direction of the invagination is to be considered, but it is not possible to diagnose this ; consequently, the inversion of the sufferer may increase the difficulty ; shaking and injecting water into the intestine while the patient is inverted, is open to the same objection as inversion alone is.

Kneading the abdomen, perchance, might do something ; but in all probability, that something would be injurious. Of all the mechanical methods, none in practice has appeared to me so decidedly beneficial as confining the patient to the inclined position, with pelvis raised and trunk dependent. It diminishes distension by facilitating a more copious vomit, which is effected with much less effort, at the opportune period. I have assumed here that the patient is under the effect of opium,

given sub-cutaneously, and has the periodical and necessary vomit only. This inclining of the couch I usually obtain by placing two or three claybricks under the twin posts at the foot of the bedstead.

The next mechanical edition to modern treatment has been to trocar the distended gut. This, though in my opinion not essential to success at all times, is a means of temporary relief, and has to be employed with care, as some surgeons have observed post-mortem indications of leakage from the punctured bowel. In my judgment, this may have arisen from carelessness in the mode of withdrawing the trocar.\*

To avoid extravasation of stercoraceous fluid into the peritoneal cavity after puncture, it is advisable, before withdrawing the canula, to cleanse its external orifice, then to place the thumb on the orifice, and secure counter pressure with the fingers around the canula. The instrument is thus plugged so as to ensure that a rush of air does not empty the contents of the canula into the peritoneum

\* Messrs. Krohne and Sesemann have made a very suitable and effective set of trocars for this purpose, from my design. They are so arranged that the canula is within the needle; this is for the purpose of avoiding a shoulder on the needle, sometimes an obstacle to its entrance into the bowels; the canula also converts the lance point into a blunt one after its entrance into the bowels.

during its withdrawal, as is done when we wish to avoid spilling the contents of a catheter, while withdrawing it from the bladder. There is one condition in which it appears to me the operation of trocaring may be specially indicated, viz., when the obstruction occupies the descending transverse, or sigmoid colon, and the accumulation has extended up to, and is straining the, ilio-cæcal valve. Here the use of the trocar may relieve pain, which may require a very large dose of opium to control, and avert gangrene, or rupture, of the intestine. It may be stated as a rule, based on published post-mortem records, and which my own experience inclines me to believe, that while trocaring the intestines to empty them of flatus is perfectly safe, the removal of their liquid contents may not be so free from danger.

In the category of mechanical aids to the treatment of this difficulty, I have placed Gastrotomy and Gastro-Enterotomy. One of these operations is, in my opinion, at times urgently indicated. Gastrotomy, if performed early, has a probability of success; but then it would have to be performed at so early a period that medical treatment could not therefore have been fairly tried; and we know that, in most cases, therapeutical means do succeed, and involve in their practice a

fraction only of the risk attendant on this serious operation—gastrotomy. Again, supposing gastrotomy to be successful, the patient even then has to be subjected to an efficient method of restricted diet and therapeutical remedies in the after treatment. To perform gastrotomy in a case of obstruction from peritonitis, enteritis, few surgeons would, I expect, advise, as these are efficiently treated by medicine. Indeed, its performance, where the difficulty arises from intussusception, would be purposeless after the first few hours of invagination; as in all probability the intussusception could not be reduced if found; consequently, this operation would seriously compromise the chance of the patient's recovery. Past and recent records of operative interference by gastrotomy fully confirms this view. Performance even at an early stage in obstruction from intussusception would be a questionable practice, knowing, as we do, from records how much nature has done in these cases, even when retarded by misdirected art; much more success may we expect from improved treatment in this special class of cases. Dr. Brinton expresses his opinion thus—

“An operation ought not, I think, to be mooted.”

Again, he gives his opinion that after a certain time operation in this condition “would at the same time literally withdraw the patient's chance of recovery.”



In my opinion, the operation of \*gastro-enterotomy involves a much greater probability of success than that of gastrotomy; because, first, after successful operation there is no occasion for a special diet or therapeutical treatment, as the obstruction cannot possibly continue if the gut is open above it; or, if sphacelus is suspected has having occurred, this should be the part of the gut operated upon, and should be attached to the external abdominal opening. Secondly, should any of the varieties of obstruction be complicated by adhesions, &c., there is no occasion to interfere with any progress towards recovery that may have taken place, as gastro-enterotomy relieves distension and makes reaccumulation improbable, if not impossible, so long as no new obstruction arises in any part of the intestine higher up than the part already operated upon. The cases which here follow confirm me in the opinion that the operation of gastro-enterotomy should be preferred, and performed only when symptoms of threatening, or of actual, collapse appear. It would be better to wait until these symptoms occur, than to add to the records of the cases operated upon

\* By gastro-enterotomy, here is meant the section of the abdominal wall, incising the gut above the obstruction and attaching the opening in the gut to the opening in the abdominal wall.



to find that the patient might have recovered, if he had not been interfered with by operation.

In the "AMERICAN JOURNAL OF MEDICAL SCIENCES," the reader will find a collection of 13 cases of gastrotomy (abdominal section) for supposed intussusception, compiled by John Ashurst, M.D., which article is a serious indictment of the basis upon which this operation is undertaken. Dr. Ashurst also gives a table of 57 cases operated on for other causes (not intussusception), but as very imperfect details are given, it is not possible to glean any practical information from them. Of the 13 cases of operation for intussusception, two are of uncertain details, and may very properly be excluded; the remaining 11 cases are recorded with sufficient data, that it is apparent to me they were all, previous to operation, subjected to a preliminary treatment such as Dr. Sydenham would, and Dr. Brinton did, designate as the "grossest malpraxis." Appended here are the data pertaining to each case:—

No. 3. Male 50 years.—Primary treatment enemata, opium, calomel, laxatives, soap linaments, bougie up rectum, warm bath, tobacco enemata, and finally the operation of abdominal section. Twelve inches of adherent invagination, &c., was found, and the case ended fatally next day.

The post-mortem revealed a gangrenous condition of the bowel involved, consequently this form of operation in this case must have been detrimental.

No. 4. Male, 28 years.—Primary treatment—cathartics, enemata, bleeding, anodynes, linaments, baths, and metallic mercury. Tenth day—abdominal section—successful reduction of nearly two feet of invaginated gut. Patient recovered.

No. 5. Male, 12 weeks old.—Primary treatment not given. Operation of abdominal section, bowel adherent and gangrenous; also ruptured by the attempt at reduction of invagination. In progress to recovery—finally fatal.

This case must also be placed among those, calamitous from unnecessary interference, gastro-enterotomy could have succeeded.

No. 6. Male, 20 years old.—Seventeen days obstruction. Primary treatment, purgatives and metallic mercury; finally, abdominal section; invagination of ileum was found. “Disinvagination was effected by grasping the intestine above and below, and forcibly rupturing the adhesions, which were quite firm; the bowel and omentum were deeply congested and on the verge of mortification. This patient recovered.”

Wonderful recovery, when we consider the primary treatment and the unnecessary and detrimental interference by operation with the part which was in progress to resolution.

No. 7. Male, 36 years.—Primary treatment, leeches, linaments, enemata—cold and hot, abdominal section. Unsuccessful as regards reduction of invagination, and fatal.

No. 8. Child, 4 months old.—Duration of complaint, 4 days. Primary treatment, injection, insufflation, sponge probang, then abdominal section. Disinvagination was effected with some difficulty; which latter indicates some degree of progress to recovery. Child was almost moribund just before operation, and died five hours after its termination.

The Primary mechanical treatment had exhausted the vitality of this subject, so that he cannot be said to have been further injured by operation.

No. 9. Male, 16 years old.—Primary treatment not given. Operation—bowel gangrenous—no reduction of invagination—bowel opened and formation of artificial anus.

Patient died shortly after operation. Case for Gastro-enterotomy.

No. 10. Age not given.—Treatment not given. “Disinvagination was impossible on account of the existence of adhesions.”

The case terminated fatally. From the report it can be fairly supposed that this case was also in progress to recovery, had it not been interfered with by section.

No. 11. Details not given, but mentioned as fatal.

No. 12. Female, 6 months. Primary treatment not given. Operation first day. Disinvagination was effected with great difficulty.

This means that adhesions existed, and it may be fairly inferred that this case again was in a fair way to recovery, had it not been disturbed by operative interference.

No. 13. Case 2 years old.—Intussusception. One month in formation. No treatment given. Operation successful.

To these cases of Gastrotomy, collected by Dr. Ashurst, I now add one of Gastro-enterotomy, reported by Dr. A. Brigham, Superintendent of the New York Lunatic Asylum, and published in the “AMERICAN JOURNAL OF MEDICAL SCIENCE,” for April, 1845, page 355. This case may be described as one of Gastro-entrotomy, without primary interference, and is a remarkable example, both of

recovery and of the mode adopted by nature to secure the resolution of so extensive a mutilation, as the removal of seventeen inches of intestine.

“The following very remarkable case of recovery, after extensive loss of small intestine, has lately occurred. The patient, a married woman, who had had five children during the two previous years, was admitted into the Asylum with which Dr. Brigham is connected in June, 1843.

As some fears were entertained that she would attempt suicide, she was strictly watched, and placed in a room where no instruments by which such purpose could be effected were kept.

No material alteration in her case was noticed until Oct. 24th, when about nine o'clock in the forenoon, she obtained a pair of large scissors that had been accidentally left in the hall, which she took to her room and with which she made two wounds into her abdomen, one about an inch and a half above the umbilicus, the other half an inch below it. From the upper opening she took out part of the small intestines, from which she cut off a portion, seventeen inches in length, when she was discovered by another patient, and alarm being given, she was forced, not without some resistance on her part, to cease from further injuring herself.

Dr. Buttolph, the assistant physician, was near, and saw her immediately, and discovering that the intestine was entirely separated, and also a considerable portion of the omentum, and that one end of the intestine was withdrawn into the abdomen, concluded the case would soon prove fatal under any treatment, and therefore returned the end of the intestine that protruded into the abdomen, stitched up the wounds carefully, and covered them with adhesive plaster,—applied a bandage around the body, gave her an attendant to remain with her constantly. While thus dressing the wound she vomited, but did not appear to have much pain.

On examining the detached intestine, which she had cut into in several places, it was found to contain a small quantity of fæces, and weighed one ounce and one drachm; the omentum, which was separated from it, weighed one ounce and two drachms. The ends of the intestine were ragged, and had been cut off obliquely. For a few days she was disposed to vomit, and was not able to retain anything on her stomach but a trifle of water. Injections of laudanum and broth were administered, and she was kept constantly quiet. After a few days she called for food, and was able to retain a very

little, and in about ten days she asked "if she had not ought to take some physic." She was reminded of the accident, and told that it would be improper to give her physic; but she did not appear to think so, and said she "felt as if it would do her good, and that she ought to have some."

She continued without much change, very quiet by aids of injections of laudanum, eating a little several times in the day, and vomiting occasionally, but without any marked tenderness or inflammation of the abdomen, until the 26th of November, thirty-three days after the accident, when she had a small discharge from the bowels of hardened fæces, and on the next day a copious one. This, she said, gave her great relief, and from this time she began to improve. The wounds had already healed, and she was soon able to walk about. Since then she has continued to have regular evacuations from the bowels, though there is rather a tendency to diarrhœa, for which she often takes laudanum. She now eats tolerably well, though inclined to vomit when she eats heartily. She is able to be about the house, and sews and knits, and is as well as she was for several weeks previous to the injury. She is, however, still feeble, and does not gain flesh, but is calm and quiet, though her mind is in rather a demented state."

Dr. Brigham, in the "AMERICAN JOURNAL OF MEDICAL SCIENCE," for January, 1846, page 44, reported the death and post-mortem examination of this patient in 12 months after from some disease unconnected with the intestinal lesion. His second report I here append in extenso:—

"The portion of the intestine removed at the time of the injury was found to be the colon, it having been divided about four inches from the entrance of the small intestine. The divided portions were drawn together at the place of injury and united by organized lymph, which also connected the intestines to the parietes of the abdomen where the wound was made. The passage between the divided ends of the intestine was small and crossed by a few ligamentous-like bands, but still large enough to permit the passage of semi-liquid fæces.

Judging from the size of the intestine removed, which was diminished by being drawn out at a small opening, we had erroneously supposed, without particular examination, that it was a portion of the small intestine, and so stated in our former communication."



In the "MEDICAL TIMES AND GAZETTE," vol xviii, page 769, is the reprint of a paper by Professor Dieffenbach, entitled, "Case of Excision of portion of Ileum and Mesentery;" again, in vol. xx. of the same periodical is a condensed republication of the same treatise. This latter I reproduce here :—

"A strong man, aged fifty, had suffered for fourteen days from strangulated inguinal hernia of the right side. Several ineffectual attempts at replacement had been made. At this time Dieffenbach saw the patient. In addition to the usual symptoms, there was reason to suspect sloughing of the protruded parts, and escape of fæcal matter into the hernial sac. An incision of about three inches in length was made into the swelling, when there escaped an ichorous fluid, with fæcal matter, and portions of mortified intestine. The diseased intestine was drawn outwards, and three inches of it which were partially mortified, softened and thickened, together with a corresponding portion of mesentery, were cut away. A small artery of the mesentery required to be tied, and the ligature was cut close to the knot. During this process the ends of the intestine were held by assistants. The angular incision in the mesentery was first united by ligature; and then the extremities of the divided intestine, by means of separate threads, so inserted as to bring the peritoneal coats alone into connection. The mucous membrane was not perforated. The parts were then carefully replaced. Shortly afterwards castor oil was administered, and repeated with some croton oil, until very large evacuations were produced. These were followed by great improvement in all the symptoms. Mild aperients and the antiphlogistic regimen were the only means required during the process of cure, which was complete in the fourth week after the operation.

The individual returned to his usual employment, which was laborious, and some weeks subsequently, after very hard work and the use of very indigestible food, he was suddenly seized with all the symptoms of intussusception, with which he died."

A careful perusal of the complete history informs us that the intestine removed had been fourteen days strangulated, during which time

"Fruitless attempts had been made by different surgeons to reduce it."



When Professor Dieffenbach visited the patient, he had all the symptoms which would seem to "threaten speedy death;" and on the second visit

"The poor man was now sinking fast, and the anxiety of death was evident."

At this time the Professor operated, and removed three inches of the intestine, with a portion of the mesentery; after excision, the ends of the intestine were sutured together and returned into the abdominal cavity. Castor oil, and croton oil were given on the first and second days; and though the after treatment included a course of mild purgation, this case recovered; but, on a recurrence of obstruction from accumulation arising from his indulgence in an

"Immoderate meal of fat meat and other indigestible substances,"

he succumbed to the primary treatment, which consisted of purgatives and bleeding.

The details of operative interference of neither Professor Dieffenbach, nor Dr. Brigham, satisfy me with regard to the mode in which Gastro-enterotomy should be performed, so as to secure the greatest probability of the sufferer's recovery. It would have been better in both cases to have followed Nelaton's usual practice of securing an external opening, by connecting the gut to the incision in the abdominal wall; thus the patient would be spared the risk, during "after treatment" and the surgeon much

trouble and anxiety. To my mind Dr. Brigham managed the after treatment of his case "*secundum artem*" if we judge it from the standard laid down by Sydenham and Brinton; whilst Professor Diffenbach's patient recovered, despite a method of treatment of injurious after aid.

Granting the theory and practice I have advocated to be correct, the majority of these cases were injuriously treated before operation; and in some cases the operation was undertaken ere symptoms of urgency had manifested themselves; and the particulars of symptoms recorded as present before, and acquired after, operation, inform me that the operation in many of these cases was a remedy for a remedy (primary treatment) rather than directly a remedy for the obstruction. With an expectant or opium treatment, most of the first 11 cases would have had a great probability of recovery with or without operation. With an exclusive opium treatment I would not expect indications for operations to occur before the seventh or the fourteenth day; and this delay is rather an advantage to the patient if he has been kept well under the influence of opium, which diminishes the shock of an operation, and keeps in abeyance peristaltic action: an item to the good for the treatment after operation.

Collapse occurring at about this period (seventh to fourteenth day) I would judge to indicate, probably one of those forms of obstruction caused by twist of gut, rent in mesentery, fibrous bands, adhesion, tumors &c., and these can only be palliated by medical treatment ; and must, when diagnosed as probably existing, be subjected to operative interference ; though I at present believe them to be not amenable to therapeutical remedies, there being no trustworthy evidence on record of such having recovered. Yet it is not impossible that this opinion may be proved to be fallacious after an extended practice of the opium method has been the subject of clinical and post-mortem observation. Dr. Brinton, commenting on this point in his treatise, page 100, after discussing the probability of spontaneous cure, says—

“One or two such recoveries have to all appearance occurred in my own practice. Fortunately for the patients, however, the exact details of the process remain uncertified.”

At page 705 of “THE BRITISH MEDICAL JOURNAL,” 1876, is recorded a case of volvulus, occurring in the the practice Dr. McCall Anderson, of Glasgow, which appears to me as though there had been in this case an attempt at spontaneous cure. Another case of obstruction from bands is reported in the same page, and had been under the care of Professor

Gairdner. In both of these cases, it appears to me that if by some method, the gut could have been kept nearly empty, pain relieved, and constipation prolonged long enough, recovery would not have been impossible. Again, on the same page, a brief report is given of a case, supposed to be volvulus, having been cured by opium and scanty diet. Experimental tests on the dog have wonderfully confirmed the hopeful prognosis Dr. Brinton had of recovery in cases where volvulus, stricture, bands, &c., existed. W. Bathurst Woodman, M. D., in the "LONDON MEDICAL RECORD" for May 19th, 1875, reports experiments :—

"Sales-Girons on the mode in which the circulation of Fæcal Matter is re-established after Ligature of Intestine. "LA REVUE MEDICAL," for March 22nd, 1875, contains a paper of extreme interest which, in the absence of any name, we suppose must be attributed to the editor. He states that, whilst making the experiments on the way in which temperature is affected by ligaturing the intestine, he was surprised to find that most of the dogs experimented on, after vomiting and obstruction of the bowels, and refusing their food, began gradually to recover after the fifth day ; and about the tenth day they resumed their normal appearance and all the functions of life seemed carried on as before. He thought at first that the ligature was not properly tried. This led him to make fresh experiments—with similar result. He thinks the mechanism of recovery deserves special notice. When a segment of intestine is ligatured with silver wire, so as completely to obstruct its calibre, if the animal survive and be killed after ten days, it will be found the portion of intestine is adherent to the abdominal wall, and to adjacent coils of intestine, by false membranes, which are easily torn, and often circumscribe little collections of pus. If, without disturbing the relations of the parts, sections are made above and below the portioned ligatured, we can easily demonstrate, by injecting water, that the bowel is once more

pervious. There is no perforation of the bowel, but a circular cicatrix shows where the ligature was applied—the two surfaces of intestine brought into contact by the ligature are, so to speak, welded or soldered together. The calibre is normal, except that at the level of the cicatrix, there is a slight circular constriction of the mucous membrane. The metal ligature is found attached to one side, and floating loop like in the calibre of the bowel. It is easy to understand that, under the influence of the peristaltic action of the bowels, the intestine is cut through by the ligature ; but during cicatrization of the external coats, the mucous membranes have succeeded in separating, thus the patency of the calibre is re-established. Two things help to bring about this result. The first is the thickness of the walls of a dog's intestines ; and the other, the nature of the mucous membrane preventing the adhesion of two mucous surfaces. This is, then, a true recovery. The cicatrix is a genuine cicatrix made up of the three tunics, and is demonstrated to be so by microscopic examination. Similar results were obtained with hempligatures. It was once found that one of these was burst by the intestinal juices. An India-rubber ligature was found encysted, its elasticity doubtless causing this result. If, instead of including a loop of intestine, the ligature was simply tied round the bowel, the results were similar, but never rapid, five days sufficing for the process. (These observations appear to the reporter of extreme interest, as illustrating the probable mode of recovery in some cases of intestinal obstruction in the human subject ; and as explaining the circular (annular) cicatrices sometimes seen in the intestines in post-mortem examinations."

These experiments are examples of obstruction from annular bands, and are specially instructive from the fact that annular strictures are occasionally causes of gut obstruction in the human body. The "MEDICAL TIMES," for Nov. 25th, this year, p. 594, contains the report of a case, where post-mortem examination demonstrated the existence of

"Annular stricture caused by fibroid thickening of uncertain origin."

The explanation I will give of this "fibroid thickening" would be, that this case was originally one

of short intussusception, and then there had occurred, that which usually occurs in slight intussusception, agglutination and partial absorption of the agglutinated part. When a long portion of intestine has become invaginated, then of course sloughing of the free portion occurs; agglutination only existing at the primary portion of the invagination. This case was treated by the "all sorts" method; that is many remedies were given, and the last credited with the result.

The details of this case are, to me, very instructive, and especially confirmatory of my opinion, that the direct relief of the mere symptoms of constipation is not to be aimed at, nor is it a trustworthy sign of resolution, inasmuch as early and repeated evacuations, as in this case, are of no benefit to the patient if the intestine is not allowed time by treatment and abstinence to become normal in condition and fit to resume its natural function. The post-mortem of this case, like that of mine, (case No. 7) revealed nothing beyond some defect in the treatment.

In the preceding remarks I have attempted to indicate the conditions justifying gastrotomy or gastro-enterotomy. If the former operation has being selected and performed successfully, the real question that presents itself is, What may be the



therapeutical treatment that should follow ? I can best illustrate my views on this important point by a consideration of the medical after treatment of hernia operations, which coincides with that of gastrotomy,\*

Operation on hernia would be attended with greater success if before and after operation, constipation (rest of part) was well maintained by opium, and restricted and limited diet for a period long enough to enable the constricted, paralysed, and sometimes inflamed bowel, to recover its normal function. It is often forgotten that a patient's gut, with its muscular power in abeyance from or after over-distension, is practically impervious in the living subject;† consequently it should be treated after operation as a genuine case of obstruction. These conditions occurring after the operation of hernia, explains why the patient may have no relief from symptoms of obstruction, and why post-mortem-examination sometimes give no clue to the immediate cause of non-success.

\* I adhere to the familiar term gastrotomy, though it does not correctly indicate the nature of the operation. A more correct term for the latter would be the name suggested by Dr. Ashurst—Laparotomy.

† Both Dr. Habershon and Abercrombie attempt to explain this condition. The latter thus expresses his observations :—“For we have seen it fatal without obstruction, and we have seen everything like obstruction entirely re-

The dread of a few extra days of constipation during the after treatment of hernia operations has been, and is, in these times, not unfrequently the sole cause of non-success after successful operation. Constipation should be prolonged as long as possible. The surgeon may be able, with opium and suitable diet, to delay the action of the bowel until the third week ; to prolong the constipation beyond

moved without relieving the obstruction.” And the former accounts for it by the supposition that “either enteritis was present, or the bowel twisted.” This explanation by Dr. Habershon is not consistent with his own remark, that “no cause of strangulation or obstruction was detected after death.” The explanation—where no Pathological evidence is present—I hold to be the correct one is this: the intestine, being confined to an area small in comparison to the length of the intestine, are necessarily packed and folded in the abdominal cavity, so that they collapse at their points of replication. This in the healthy gut is corrected by peristaltic action, whilst in a gut paralysed from over-distension, &c., correction by this means is not possible ; consequently, obstruction must arise at the points of replication, to avoid which accumulation and distension must be avoided, and rest secured, so as to regain the muscular power of the temporary palsied gut. Post-mortem examination in this condition would reveal nothing, as the slightest unavoidable disturbance of the parts in examination would remove the condition : even during treatment it might be corrected by a change in the patient’s position, but probably only to recur at another point. If the course of the intestines were so arranged that from the stomach to the rectum they formed nearly a straight line, this form of obstruction could not occur. Any of my readers accustomed to manipulate rubber tubing will have noticed that a sharp bend of this tubing will arrest the flow of liquid, even though it is circulating (when arrested) under some degree of pressure ; this, however, I admit, but an imperfect simile. No form of obstruction exists of which its cause can not be accounted for on rational basis.

the third week is very difficult to attain. The constipation is a "consummation devoutly to be wished" rather than to be guarded against. As evidence of the opinions taught concerning the after treatment of hernia operation, and especially illustrating my preceding remarks, I append paragraph 10 of Prof. George H. B. McLeod's paper, entitled "Remarks on Intestinal Obstructions," with special reference to diagnosis, published in the "BRITISH MEDICAL JOURNAL" for December 2nd of this year. Those specially interested in the question here discussed will find in this very interesting and exhaustive paper the latest and most complete resume of the principles and treatment now in vogue, and to the refutation of which Dr. Brinton devoted much of his talent, energy, and time :—

"Paralysis of the bowel, after operation for strangulated hernia, either by the taxis or knife, is by no means uncommon, and constitutes one important source of danger from that affection. The bowel, after being long strangulated, does not recover its function, even though restored to its place in the abdomen. Passive obstruction occurs, and unless means are used to arouse the dormant action, the patient dies."

In the treatment of the intestine, set forth in this quotation, any attempt to rouse it would probably fail, and be the cause of prolonging the dormant state and of failure. The best method to restore action (it cannot be aroused) would be to practice an expectant method ; or, if anything is done,

it should be to prolong rest, also to hinder accumulation in the gut, and its consequent over-distension with paralysis. This rule should also be our guide, even when inflammation has succeeded hernia operations. We have a parallel in inflammation and temporary distension of the bladder.

From Prof. McLeod's paper, and others read before the Edinburgh Medical Society, which can be seen in the "EDINBURGH MEDICAL JOURNAL," for 1873, 1868, 1866, it is only too evident that our medical brethren beyond the Tweed hold the principle, and practice the method so general in England and Ireland ; and from what I have been able to glean, the practitioners of our art in both the old and new continent can reform their methods of treating these difficulties with advantage.

In the treatment of these casualties, so many diverse methods and remedies are tried, and strongly advised, that I am reminded of Sydenham's remarks,

"Where is the particular importance in just telling us that once, twice, or even oftener, this disease has yielded to this or that remedy? We are overwhelmed, as it is, with an infinite abundance of vaunted medicaments."

What I hope to see is such treatment of these diseases general among us, so that—

"By a long continuance and a frequent repetition of his (the physician's) experiments, he may lay down and prescribe for himself a "Methodus Medendi," from which, in the case of this or that disease, he need not deviate a single straw's breadth."—Sydenham.

When certain symptoms are present, gastrotomy is justifiable, and gives the patient one more chance ; but in my opinion converting abdominal section into gastro-enterotomy would more than treble the chance of the patient's life being saved.

This double operation—Gastro-enterotomy—was first performed for intestinal obstruction by Renault, in the year 1772, and in that case with success. In latter times M. Nelaton appears to have performed this operation for intestinal obstruction, and so frequently that it may be inferred that he had a special preference for this double operation in cases of obstruction, when operative interference was called for ; and this practice appears to have been very successful with him.

The advantages attending this operation are that (supposing the gut opened above the obstruction, or should the intestine be gangrenous, this would be the site for the formation of the artificial anus, and the intestines could then be immediately and certainly relieved of their contents and symptoms of obstruction) there need not be any special anxiety as to the after therapeutical treatment, nor would there be need for a strict surveillance of the dietary. Again, if the gut invagination is adherent, as probably it would be, it should not be disturbed ;

or should a stricture, or any of the many pathological conditions known to occur be present, they can be ignored until nature has rectified the difficulty, which it would do in the majority of cases. Lastly, time is of no object ; the gut can be allowed either one month or one year ; and during that time the patient is free from suffering, and requires but ordinary nurse skill and attendance.

As to external applications in these cases, it has been my habit,\* of late, to apply a single fold of linen steeped in cold water over the abdomen. I regret that it was not always my practice. In times past I have tortured, and, no doubt, added to the difficulties of recovery by external applications, such as linseed meal and mustard, cantharides cataplasms, hot water fomentations, linaments of supposed stimulating virtues, &c. Remedies, when applied in contiguity to the peritoneum, or any other serous sac, no matter for what complaint, are objectionable. This is the opinion forced on my reluctant mind.†

\* Here the patient's feeling should be consulted. At times cold external applications after giving ease. Cease to do so or are objected to as painful. So with ice given by the mouth. After being much enjoyed by the sufferer it may begin to disagree, and should be discontinued.

† That which further drew my attention to the subject of counter irritation in general was, the teaching of the late Prof. Syme, that effectual



The next class of remedies are those applied or given with the intention either of exciting or arresting the peristaltic action. To the former class belongs galvanism, the various therapeutical remedies, designated purgatives and belladonna ; whilst opium and its various forms arrest peristaltic action. On the merits and correct mode of the administration of these, the patient's chance of recovery mainly depends. The frequency with which excitants of the intestines are used, even in these days, necessitates the consideration of their value. Galvanism has only been introduced in the treatment of this affection during late years ; consequently our predecessors were spared this injurious torture. In those cases in which its use was resorted to during the last ten years, there has been no evidence given that it was of any benefit. It is true that in some few cases its application was followed by recovery. In those cases, its use, in my

counter-irritation applied on the skin over the knee-joint produced irritation on the corresponding surface within the joint. Again, I noticed an attack of Herpes on any portion of the abdominal or thoracic wall induced an obstinate localized peritonitis or Pleuritis corresponding to the track of the Herpes. Most physicians must have noticed the obstinacy of the after-pain which often remains after the disappearance of the Herpetic eruption, while an attack of Herpes on the neck, arm, or lower limb, leaves no such after pain. This latter fact indicates to me that the after pain remaining after Herpes of the abdominal or thoracic region cannot be referred to nerve lesion, or it would follow Herpes of the head, neck, arm, or lower limb.

opinion, failed to thwart recovery, as the patient's powers of endurance and tenacity were more than the injurious galvanic stimulation of the intestine could wear out. Galvanism, when applied so as to effect the intestinal canal becomes a mode of purgation. And the use of purgatives, in these difficulties, I can only designate as the "main force" treatment, and to me it would be quite as reasonable if immediately after a case of railway tunnel accident, the authorities in charge of the "line" requisitioned the aid of an artillery corps, armed with the "Woolwich Infant," to clear the debris; with the effect, I would expect, of injuring the tunnel more than effecting a clearance of a passage for traffic. Neither argument nor records of experience give any ground of justification for the use of purgatives at any period during the treatment of these lesions. The records of cases treated during this century unmistakably show, first, the high mortality attending intestinal obstructions; second, that persistent purgation was the usual method of treatment and the principal cause of this extreme fatality. And purgation appears generally to have been persisted in upon no other grounds than that of "symptomatic treatment,"\* i.e., inasmuch as consti-

\* Dr. Brinton, "LANCET," April 11th, 1863, refers to the purgative method as "grossest malpraxis."

pation was present, a purgative was supposed to be indicated. As a practical illustration of the evil of prescribing purgatives, I subjoin a case of intestinal obstruction occurring in my own practice :—

During the latter part of 1875, a Shetland sailor called, requesting me to prescribe an aperient to relieve some discomfort he felt in his bowels. He had had already a black draught from a druggist. I neglected to examine him, and wrote a prescription for a draught of Deco ; Aloes, Co. This was in the morning. In the evening of the same day, I was sent for to Duncan Street, and found my morning visitor in great pain—vomiting frequently, abdomen tender and distended, indicating obstruction. I at once commenced the opium treatment, and was able to keep in abeyance pain, partially arrest vomiting, and prolong the constipation to the fourth week, when the intestines resumed their natural functions; and in the sixth week he went to sea. Had I repeated the purgative once or twice after my first careless prescribing, this man would, in all probability, have succumbed to the treatment before the end of the first week. This opinion is based on the serious symptoms so rapidly developed by the purgatives. His case was, as far as I was able to diagnose it, one of enteritis. The prescribing of an aperient, however mild at the commence-

ment, may do so much harm that the practitioner may fail subsequently to undo it; and as a general diagnosis is so easy at an early period, there is no explanation for this mistake except omission of duty on the part of the consulted, as in this case.

In the narcotic class of therapeutical remedies, three only—belladonna, tobacco and opium,—merit notice. The two first mentioned are nearly similar in therapeutical action on the intestines, but as tobacco is seldom prescribed, belladonna only will be considered, especially as Dr. Brinton has recorded one case in which it appeared to him to be beneficial. It is with extreme reluctance that I again venture to differ with so able and painstaking an observer as to the value of belladonna in these lesions. My conclusions with regard to the actions of both belladonna and opium, either separately or combined, I have arrived at after experiments on the horse, rabbit, and man; and though they are not quite satisfactory even to myself, have nevertheless, given me sufficient basis for guidance to their therapeutical value. And where I have applied this knowledge in clinical practice, the results have confirmed many of the deductions already gained from experiments. The actions here attributed to belladonna and opium are sometimes at variance with what has been assigned to them by Dr. Harley,

whose careful and extensive record of experiments, published in his volume on the Vegetable Neurotics\* I perused some years ago; but at that time failed to coincide with some of his deductions. When belladonna is given in these lesions, it is usual to justify the practice by asserting that it may relax muscular spasm. Disbelieving, as I do, in the existence of spasms in any conditions that give rise to obstruction, and believing further that if spasm existed, belladonna would intensify it rather than relax it, inasmuch as this drug is a stimulant to the muscular coat of the intestinal tract and to the whole sympathetic system; in fact, the most valuable and effective nerve stimulant we possess in the Pharmacopia (given in medical doses subcutaneously). This action, Dr. Harley's experiments conclusively convinced me of when I first perused his volume.

The action of belladonna, when applied to attain dilatation of the pupil, is in my opinion, to stimulate the sympathetic; and as the radiating muscle of the iris is supposed to be specially under the control of the sympathetic, it calls into action the radiating muscle more than the circular one, and consequently we have dilatation of the pupils. In the same way,

\* This volume instructed me on the value of belladonna as a potent stimulant, and those who may be interested in the actions of remedies daily prescribed will find in Dr. Harley's volume very valuable information.

I believe, belladonna has a stimulating action on the muscular fibres of the intestinal tract, and especially so on the longitudinal ones, under the control of the sympathetic, while the circular ones are supposed to be more under the control of the spinal system ; consequently, this drug in gut obstruction would increase the frequency of vomiting, inasmuch as the stimulation would be developed in that portion only of the intestinal tract that is free from lesion ; the excitement of peristalsis in which would thwart any efficient rest (so much needed) at the situation of casualty where the natural function is suspended, and cannot possibly respond to any form of stimulation.\*

It may be asked what explanation can be given of the recorded observations of Dr. Brinton, of its undoubted efficacy in relieving pain in one of his

\* Bretonneau, Trousseau, and Niemyer refer to belladonna, and strengthen my view of its action. The latter, page 555, vol. i, says :—"Unfortunately I cannot at present distinguish the case of habitual constipation when belladonna is indicated from those in which it is not. It is to be hoped that future observations will determine the cases proper for the use of this remedy, which is so excellent in some forms of constipation." However, to discuss its value in the various forms of so-called habitual constipation would be foreign to the subject at present under consideration, and as it is of importance, that some amount of liquid should accumulate to render down in consistant the fæces, and fit them to pass early through the diminished calibre of the gut. As, for instance, when the calibre of the gut has been diminished to  $\frac{1}{8}$  of an inch in diameter, it would require the consistency of the gut contents to be reduced more than if it was only  $\frac{1}{2}$  inch in diameter.



reference cases, page 110 of his volume on "Intestinal Obstructions." This case is also more fully reported in the "LANCET," for April 11th, 186, from which report it is very apparent that Dr. Brinton had no definite knowledge as to what the action of belladonna—physiologically or therapeutically is, as he refers to tobacco and belladonna, and their actions on the—

" Muscular tissues, which they cause to relax."

Afterwards he expresses his belief that belladonna neutralized the constipative effect of opium ; consequently, I hold, it must excite peristaltic action of the gut, and not relax it, which would cause obstruction, as the contents of the gut are propelled by the contraction of the two arrangements of muscular fibres, not by relaxation.

The explanation of the supposed efficacy of belladonna in Dr. Brinton's reported cases is very apparent to myself, viz., that it had no effect at all, for he never gave the patient enough to develop any therapeutical effect ; as on reference to the "LANCET" report I find that at the commencement of treatment a very inadequate dose of opium was given, but at a later period a more liberal use was made of opium, and with which was combined a fractional dose of belladonna ; yet to the latter was attributed the beneficial result that followed. I feel certain that the belladonna in this case had no effect,

for it was given in the proportion of one-sixth of a grain of belladonna to two grains of opium, equal to 1 belladonna to 12 opium, and 1 belladonna to 9 opium, or one-third of a grain of belladonna to three grains of opium, the proportion Dr. Brinton mentions in this article. After careful consideration of Dr. Harley's experiments, and in particular of the crucial and careful observations of one who was always so exact in his experiments, the late Professor Bennett, as recorded in his report on the "Antagonism of Medicines," and of my own experimental and clinical observations, I am forced to the conclusion, that the administration of belladonna is contra indicated in all of the varieties of lesions considered in this paper. When referring to belladonna as a stimulant of the intestinal tract, I refer to the healthy portion, as its functions must be in abeyance at the place of obstruction. It has been the custom with many to administer a combination of opium and belladonna. These two remedies are, in my mind, in some degree antagonistic. \*From Professor Bennett's

\* Professor Bennett's report on the antagonism of remedies clearly shows that their effect on the pupil of the eye is a very certain indication of their physiological action, when given in non-toxic doses. Again, the mode of death, when given in toxic doses, is another indication of their physiological action, as he records some of the animals experimented upon as dying, with

report it is apparent that a dose of belladonna will partially neutralise a corresponding dose of opium. I can better explain my meaning by supposing belladonna to be represented by  $S_{st}$  (sympathetic stimulant), and opium by  $S^{sed}$ ,  $CS^{sed}$  (cerebro-spinal and sympathetic sedative), thus a dose of  $S^{st}$ , i.e., belladonna, will only neutralize that action of a dose of opium represented by  $S^{sed}$ , and is wholly inoperative as an antagonist to that effect of opium represented by  $CS^{sed}$ ; consequently had belladonna been a stimulant of cerebro-spinal system as well as the sympathetic, it would in proportionate combination exactly neutralize the effect of a toxic dose of opium. I hold the correct antagonistic proportionate dose of atropia and morphia to be about 1 of atropia to 5 of morphia.†

It is often asserted, that the combining of belladonna and opium is so far beneficial that the vomiting, so often resulting from the administration

symptoms of convulsions predominating, while others died from symptoms mainly tetanic, just as the poison happened to have a stimulative or sedative action on either the sympathetic or cerebro-spinal system; indeed, the reader can, by noting the action of each remedy on the pupil and the mode of death, predict the convulsion, that appear in the statistical portion of his text, and also correct a few slight inaccuracies of deduction.

† I note that in the experiments of Dr. Harley on the antagonistic effect of atropia and morphia in no one recorded experiment was the atropia in sufficient dose to fairly test its antidotal power.

of an opiate, is thus avoided. This is very probable, inasmuch as such combination would be nearly neutral, if we except very large medicinal or toxic doses of opium.

The next remedy to be considered is opium. This, when correctly and opportunely administered, is as certain, safe, pleasant, and successful in its action as all the previously discussed drugs and modes are uncertain, unsafe, painful, and disastrous. As with belladonna, the physiological action of opium on the pupil of the eye is some guide to us as to its action on other muscles of the non-striated class. The pupil is usually contracted, when influenced by this drug. This I explain on the supposition of its special and paralysing effect on the sympathetic; consequently, the radiating muscle of the iris under the special control of the sympathetic is paralysed in a greater degree than the circular one. Thus we have a contraction of the pupil. On this view of its physiological action, its effect on the intestinal canal would be to paralyse longitudinal fibres more than the circular ones. When opium is given with the intention to benefit a case of intestinal lesion, the benefit that may accrue to the patient arises from its action on the normal portion only of the canal, by as much as possible suspending peristalsis; i.e., maintaining

rest of the part to enable it to progress towards resolution of the local cause of obstruction.

Opium, to ensure its action appropriately to the treatment of these difficulties, must be injected under the skin, commencing with one-sixth of a grain of morphia for an adult, and gradually increasing it, until its sedative effect is produced, and not repeated at fixed periods, but given when, either from information received, or personal enquiry, the physician finds its action, previously apparent, gone, or wearing off.\*

The injection should be given at gradually extended intervals after apparent resolution of the difficulty. For subcutaneous injection, I prefer

\* Through the kindness of my friend, Dr. Wallace, I read as soon as published vol. vii. of the "Cyclopædia of Medicine," by Dr. H. Von Ziemssen, the article on Constrictions, Occlusions and Displacements of the Intestines, which is by Leichtenstern, with comments by the Editor. In this monogram is to be found a very full, able, and systematic description of the etiology, diagnosis, prognosis, and treatment; and there appears a decided progress towards the opium method, which he advocates, but also advises enemata, but of water only. A perusal of page 649, convinced me that the writers have no knowledge of the opium treatment in these difficulties, when practised exclusive of all other modes of interference. Their dread of prolonged constipation has induced a policy of treatment to be advised that must undo any benefit arising from the opiate; in fact, it is very apparent that while opinion is advised, Dr. H. Von Ziemssen has no knowledge of its effect or efficacy, when its use is prolonged, uninterruptedly, without interference with other remedies therapeutical or mechanical.

Lig. Morph ; Sulph., as it remains long unchanged if kept in stock, and is not so painful as the other combinations of morphia. Its advantages were brought to my notice by my friend, Dr. Adam, of this town, who also coincides with my views of treatment of the difficulties here considered, and in conjunction with whom I have had, on many occasions, the pleasure and instruction consequent on a comparison of our mutual practice.

Opium, in the form of morphia, when injected under the skin, in adequate and opportunely repeated doses, in these cases, has the therapeutical effect ; first, of diminishing the frequency of vomiting by arresting peristalsis, thus diminishing thirst, and also permitting of the solid contents of the gut becoming thoroughly reduced in consistence, by admixture with the thus longer retained fluids. This result explains again how the opiate acts as an aperient ; for as soon as the consistency has been sufficiently reduced, it may pass through the paralysed or narrowed gut long before the gut has become of normal calibre or function. Second, it eases pain, and consequently keeps in abeyance constitutional sympathetic irritation. Third, it makes the partial but prolonged abstinence from food more tolerable.



Fourth, as it arrests peristaltic action along the whole length of intestine, there are grounds for believing that as soon as the contents of the gut above the obstruction have been reduced to a consistency fit to pass through the obstructed point, then the contents below are in many cases subjected to the same process of mechanical reduction of consistency. This explains to me why, in these cases, under the opium treatment the patient so frequently passes per rectum with pul-taceous fæces.\* On the other hand, given by the mouth it may at times induce sleeplessness, with even delirium, or persistent and prolonged vomiting. I have observed, on many occasions, that a dose of morphia solution administered by the mouth induces obstinate vomiting, yet a corresponding dose given under the skin of the identically same solution arrested the vomit in the course of a few minutes. We know there are other remedies, some of which are either more uniform or more potent given under the skin, while others differ but slightly, either in character or effect or potency whether introduced into the system by skin,

\* The patient may have relief of constipation ere recovery has occurred ; or, again, he may be well before relief of constipation, if any accumulation exists below the obstruction, as this has to be subjected to reduction of consistence, hence it is safe practice to prolong the treatment.

mouth, or rectum. The subcutaneous administration of opium, belladonna, digitalis, are more uniform and potent than when given by the mouth. I can testify from experience, that the three-sixteenth of a grain of morphia under the skin will equal one-fourth of a grain by the mouth; one twenty-fourth of a grain of atropine by the skin, is equal to one-eighth of a grain by the mouth; ten drops of digitalis tincture by the skin equals a dram by the mouth.

The recent investigations of Mr. Tuson, on the change of form that remedies may undergo in the alimentary canal justify me in supposing that in the administration of many of our remedies by the mouth, changes of combination and form take place; consequently physiological and therapeutical effects occur which the physician cannot foresee. The discovery, lately, of the form of opium termed apomorphia, and its strong emetic action, may explain the occurrence of vomiting after opium is given by the mouth. Again, other remedies appear uniform and efficient in their action whether given by the mouth or skin; as choral, strychnine, potass-bromide, &c.

The next consideration is the diet and drink of the patient. The diet should be limited in quantity,

and restricted as to quality, so as to prevent the introduction of an avoidable amount of excreta. But here the question arises whether the practice of this limited and restricted diet does not involve a serious amount of emaciation. In the first place it must be admitted that an avoidable degree of abstinence will involve some measure of emaciation; but it must be endured to secure the benefit arising from less excreta.\* A still more potent cause of emaciation is pain. It would be a much easier task to emaciate a person by induced pain, which usually is accompanied by a loathing of food, rather than by a minimum of diet. It is wonderful how long a sufferer can tolerate even total abstinence of food when opium is given, which appears to allay the feeling of hunger. At the period of resolution, the opium not being given so frequently, ceases to keep the appetite in abeyance. I have known the case of a sufferer from acute enteritis

\* Dr. Habershon in page 475 of his volume on "Diseases of the Abdomen," while insisting on the beneficial value of opium, restricted diet and so-called stimulants—brandy and wine, &c.; yet insists also on the equally beneficial value of medicated enemata. "In this way warm water, soap, castor oil or turpentine." This reminds me of certain theologians who whilst they stoutly deny the canonicity of certain books generally do battle the more earnestly for the remainder. The evidence contained in Dr. Habershon's reported case, shew that whatever reliance he places on opium in these affections, the enemata simple or medicated, which he recommends, more than negatives the benefit to be derived from the use of opium.

who retained nothing but a drink of iced water, frequently repeated in small quantities for 49 days, and yet recovered at the end of that long period of abstinence not much emaciated, though previous to this complication the patient had suffered from another painful affection.

\* Of course it is not advisable, nor seldom necessary to prescribe total abstinence. Art supplies us with prepared food, the administration of which adds but slightly to the difficulties which the physician has to contend with. I usually restrict the patient to the following articles of diet—arrow-root, sago, linseed tea, extract of beef, filtered decoction of peas, rice water; all these being prepared with water given cold—milk being avoided. These should be administered in half-ounce doses every one or two hours. The drink should be confined to iced water, given in ounce doses every two or three hours; and as the patient takes but a mini-

\* During the period I had the benefit and pleasure of attending the clinic of the late Professor Bennett, he expressed his disbelief in the existence of any therapeutical tonic. To this scepticism I incline also; food, well digested and assimilated, appears to me to be the only undoubted tonic; substitutes for the food are continually sought for even now, as the elixir vitæ in times past. It is not long ago since a learned Professor announced the discovery of a remedy that permitted exercise, with no loss of muscular power (force without fuel) even during active exercise. This discovery, I predict, will soon be numbered among the collections of unsolved riddles, such as the elixir vitæ, transmutation of metals, perpetual motion, &c.

munum of nourishment, it is well to economise carefully the natural heat by applying a warm bottle to the feet, and a blanket across the chest, whilst the abdomen should be exposed if practicable.

However valuable opium may be in intestinal casualties, a restricted diet is (if food can be taken) of equal importance. It has been during the last thirty years—despite the demonstrations of physiological chemists as to the place and value of so-called stimulants,—the prevailing fashion in nearly all diseases to urge the use of what are mis-termed stimulants, as brandy, wine, ammonia, &c. ; the belief in their stimulating properties being based upon no better premises than the fact that the one is pungent to drink, and the other volatile and an irritant to the nostril. With regard to food, the sufferer is frequently pressed to secure quantity as well as quality, as though the former—not digestion or assimilation—were all important. It is often forgotten that the patient is suffering from disease, not from abstinence ; that which has to be considered is, what amount can the patient's chylopoetic viscera prepare and assimilate ? else the sufferer may actually go through a process of starvation while taking a quantity that would benefit him had he been in health.

As evidence of the prevailing mode of dieting

patients after important operations in the abdomen, an instructive case occurs in the "LANCET," of 1876, where is reported a case of abdominal section.\* In this case all the operative details being excellently well managed, with, in my opinion, one exception, viz., the diet and therapeutics, which was of primary importance to success,

Yet consisted of milk, "milk gruel," or "well-boiled oatmeal gruel and sugar;" third day, tea and toast; seventh day, meat and vegetables and pudding; the fifteenth day, a dose of castor oil, which was given "in order to satisfy us that the intestine was permeable.

And again, in the "MEDICAL TIMES AND GAZETTE," of the same week, a case of Intestinal Obstruction is reported, where milk was given freely from the beginning; and about the tenth day, bread and milk, which forcibly reminded me of the apple dumplings allowed in the case reported in the "MEDICAL PHYSICAL JOURNAL," of 1824.

A copy of the "BRITISH MEDICAL JOURNAL," of this year, supplies us with an example of dietary which I think is a great advance in forms of diet, frequently reported as allowed to patients suffering

\* This case was treated under the ægis of a new speciality—a "Temperance Hospital;" from which it may be gathered that intemperance in our national drink is an evil, while intemperance in food and purgatives is not; yet certainly the diet and purgative placed this patient in as great a danger, if not more, than an over dose of brandy would have done.



under intestinal difficulties ; yet, great as is the improvement here advised, it is capable of still further reform.

The example I referred to is contained in a lecture delivered by a court physician when discussing Enteric Fever.

“ In a case, now at the fourteenth day, there is looseness of the bowels. On examining the stool, I find a separate undigested curd of milk. This curd has acted as an irritant and induced the diarrhœa, therefore you must thin the milk, and replace it more or less by beef-tea. It has been too much the fashion to give much milk without due regard to its digestion. As remedies, you may give some starch with bismuth in enemata. At the next visit some hemorrhage was reported by the nurse. On inspection, it was found to be about half a pint of dark fluid blood. Now, the most important point is, that this patient does not sit up for any purpose. A case which occurred during my student days impressed me very much. He had had hemorrhage like this, but did not seem very bad ; his pulse was 84 ; his mind clear ; he was allowed to rise to the night-stool ; the hemorrhage recurred, and ended fatally in a few minutes. A mesenteric artery had been opened. You must then, by position, take off the weight of the blood-column. Omit milk altogether, the curd might irritate ; give beef-tea and arrow-root ; a little softened bread ; a little brandy, two drachms every three or four hours, to improve the nerve-tone ; give him three grains of acetate of lead with acetic acid every four hours, and an opiate enema night and morning. Observe there is no great distension of abdomen, and there is no tremor. I conclude the ulceration is not deep. When tremor is disproportionate to other nerve-symptoms, it indicates more depth of ulceration. The patient did well.”

This restriction in the quality of food is a great improvement on the diet too frequently allowed patients suffering from the intestinal lesion which accompanies enteric fever, and though the lesion

here is but a symptom of blood poisoning, yet as soon as it manifests itself, it should be treated as though it were originally one of intestinal inflammation, with this difference, that the beneficial effect of the opium is developed by the administration of much smaller doses. Regarding the defects of the diet advised in this lecture, viz., the softened bread, and thinned milk, they appear to me objectionable, and there is no occasion to use them so long as we have suitable varieties of food supplied to us by art which are beyond question. Again, the remedies here prescribed for this form of intestinal difficulty are open to some doubt as to their correctness, as for instance the "bismuth in enema," "opiate enema night and morning." Why this tickling of the rectum after the invention of Dr. Wood's subcutaneous syringe? and I should judge that the hæmostatic value of 3 grains of acetate of lead and acetic acid on 24 feet of gut would quite equal the tonic effect of brandy on the nerves.

The dietary and therapeutics insisted on by Sydenham, in his details of treatment for enteric fever, has not yet, in my opinion, been surpassed by any modern practitioner; his diet was more restricted as regards varieties, inasmuch as in his time, art had not supplied the many valuable forms of food now so general among us. The treatment

of the gut lesion, which occurs in enteric fever, is yet a disputed question among physicians, as can be seen by the perusal of the monthly periodical known as the "PRACTITIONER," for 1877, or the "DUBLIN JOURNAL OF MEDICAL SCIENCE," 1877.

In this is contained a paper read before the Medical Society of King and Queen's College of Physicians, Ireland, and written by a physician to a fever hospital. It is entitled "On the management of the bowels in enteric fevers." I append a condensed summary of it.

"It commences by deploring the "serious mishaps" that arise from a wrong use of therapeutics in this fever, and gives the opinion of Dr. Todd, "Restrain diarrhoea and hemorrhage in typhoid fever, and when you have fairly locked up the bowels," keep them so, a patient will go for four, or six, days, or even longer without suffering inconvenience from the state of constipation."

\* Certainly, this is what I have noticed and with benefit to the patient, and this is what Sydenham taught. It is perfectly safe though unnecessary at an early period to give a laxative (to drive the "peccant humours,") but lock up after, and you avoid, or will keep easily under control, by opium and a suitable diet, the usual intestinal difficulty.

\* The late Professor Bennett, of Edinburgh, used to ironically explain the cause of the indiscriminating practice of purgation in fevers to arise "from a desire to have a clear field for future operations," which is certainly as reasonable an explanation of the cause as Sydenham's excuse, to remove "peccant humour."

The suitable diet is of importance, otherwise "locking up" by opium will not benefit the patient.

The writer strongly condemns the practice of giving purgatives, yet his method of treatment is "castor oil muzzled with opium;" diet—"chicken broth; then chicken; and, lastly, mutton "and milk." He also expresses the opinion "that the bowels should be more frequently moved than in health, and that the motion should be plentiful. He says, "I consider that the bowels may be moved with advantage to the patient four times in twenty-four hours," and "so long as any symptoms of distension or pain set in." If diarrhœa set in, boiled milk with or without lime water; if this does not succeed, acid sulph. Should this fail, opium is advised or lead and opium, and linseed poultices over abdomen, or turpentine and mustard stupes.

From the fact that the writer advises purgation "if any symptoms of distension or pain set in," it is only too apparent he has had no experience of the Sydenham or Todd method.

Distention and pain would indicate to me the necessity for a reverse mode of treatment; and as for the mustard and turpentine stupes, whatever they may effect if applied to other parts of the patient, their application to the abdomen is worse than useless.

This paper was the subject of discussion in the learned society, before the members of which it was read, yet of all those who joined in the debate that followed the reading, none dissented, the dread of purgation which they advised on the one hand, and an equal if not more fear of constipation, seemed the

prevailing expressed opinion. With small doses of opium, and a suitable diet, fit for intestinal casualties, the physician need have no anxiety if he should be so successful as to prolong the constipation for 14 days. Distension and pain, should it occur, simulates the progress to resolution, which is to be noticed in enteritis, i.e., the distension subsides gradually, and few days before the bowels are emptied by peristaltic action.

The reader will no doubt have noticed that some of the views set forth in this paper are speculative ; and though appearing to me as highly probable, yet further clinical observation may disprove some of them. But I hold that the method of treatment—a solely, undeviating, and prolonged course of opium—herein advocated, which reason and experience indicate as the correct course, will take its place as the standard in times to come. I do not claim any originality, as Dr. Sydenham has laid down the best method of treatment up to this date, and surmised the explanation of several symptoms occurring in others. These speculations were afterwards demonstrated by Dr. Brinton; indeed, the latter is short of nothing as regards the etiology, but his treatment is not consistent with his own discoveries. He has, however, placed us in a position to rationalise and treat with confidence these

casualties so that they no longer

“Entail whole troops of remedies throughout all the stages of the ailment—remedies for the remedy rather than for the disease itself.”

And though I have advocated a more persevering, undeviating, and prolonged a course of opium than Dr. Brinton did, yet I firmly believe that had he lived to this time, he would have counselled my apparently extreme advice, and he would have added to the facts he has given us.

There are comments in his volume (for instance the foot-note in page 120) which show that in the rationale of treatment he had not that complete confidence in his own method which it merited.\* Again, the valuable addition to our armamentarium—Dr. Wood's subcutaneous syringe—had not come into general use in his time. Consequently, Dr. Brinton might not have always secured the intended effect of his remedies. We have no record that he ever used it.

\* See also Summary, page 122, Intestinal Obstruction, by Dr. Brinton, where details inconsistent with his theoretical teachings are advised. Again, the cases given at the end of the volume as illustrations of the practice deduced from the demonstrations of Dr. Brinton; they represent an expectant method rather than an opium treatment, as the opium was given neither in dose sufficient, nor form that can be trustworthy.



I have appended but a few illustrative cases—they are those alone of which I have notes.

Case No. 1.—During the early part of this year I was called to assist in the treatment of a case of supposed intussusception. The gentleman in charge of the case told me that a fortnight previously the patient had, whilst at work, had a sudden action of the bowels followed soon after by a good deal of pain, to relieve which the medical attendant was called in; and he, attributing the cause to constipation, administered purgatives, enemata, &c., which, however, had given the patient no relief. When I examined him I found the abdomen very tender on pressure, especially in the right hypogastric region, with moderate distension and frequent vomiting, which had become slightly stercoraceous. I advised the discontinuance of all purgatives and all interference by the use of enemata, and ordered cold cloths to the bowels, elevation of the pelvis, and morphia administered subcutaneously night and morning. This treatment had the effect of diminishing the pain and partially arresting the vomiting, which now only occurred with a notable regularity about once in twelve hours. Yet the distension continuing much as before, the morphia was continued, sometimes twice, and at others three times a day, subcutaneously for the seven days succeeding my first consultation, with the effect of greatly relieving the patient from pain and the partial arrest of the vomiting; but there was no diminution of the distension, nor was the rapidity of the pulse much diminished. About the eleventh day after my introduction to the case the morphia dose had to be much increased, but did not completely ease the pain, and diminish the rapidity of pulse, whilst the distension was slightly increased. On the 12th day of my co-operation in the treatment the patient's condition appeared very precarious, and indicated to my mind that if in the course of a few hours the symptoms did not improve, it would be necessary to practice some operative interference, lest perchance this might not be a case of intussusception or enteritis, but rather, one of the various forms not usually judged amenable to therapeutical remedies. This opinion was based on the fact that the morphia appeared not to have sufficient control over the pain, or the pulse. However, to my delight, when we met in consultation the next day, I was informed that the patient had passed frequent and copious semi-liquid stools, with great relief to all the symptoms. But he was still continued under diminished doses of morphia, and treated for a time as though the obstruction still existed, and ultimately recovered.

To myself, the question at what period or what symptoms indicate that operative interference should had recourse to, has always been a very difficult one to decide. At the present time, I would not expect and do not think that it would be indicated (under opium treatment exclusively) earlier than about the seventh to the twelfth day ; when, should symptoms of urgency appear, Gastro-enterotomy should be performed. At my last consultation in this case, I thought that very probably this case was neither enteritis nor intussusception ; but twelve hours delay to await the symptoms, which I judge sufficient for to justify operating, corrected my diagnosis, and probably saved the patient's life.

Case No. 2.—On the 7th of June, 1874, I was called to attend Mr. H—— H——, 55 years of age. I found him suffering from slight tenderness of the bowels, with thirst, and an irritable pulse, distended abdomen, &c., and as he had been under my care for three previous attacks of enteritis, I concluded that in all probability this was a recurrence of the old complaint. I administered a  $\frac{1}{4}$  of a grain of morphia subcutaneously night and morning during the first four days, but the distension increased, and he vomited from once to twice daily during the first fourteen days. When the distension became extreme, I then trocared the abdomen on the most prominent point in the right hypogastric region. This operation was repeated every other day on six occasions, with the effect at the time of releasing a great quantity of gas, and totally collapsing the abdomen. I also raised the pelvis, and during the whole time of treatment restricted the patient's diet. A motion of the bowels took place on the 29th day. They continued acting for three days. Yet I continued the treatment for some time after. In the course of a fortnight after which the patient was so far recovered that he went to attend to his business, contrary to my advice ; and he continued apparently well,

though very feeble, up to the 19th of September, when his previous symptoms returned. The morphia treatment was resumed and continued until the 2nd of November. During this period, the bowels rapidly became distended, and the distension, which was always caused by gas, was relieved by trocaring, which was performed on some occasions as often as four and five times a day, in all the trocar was inserted on 40 occasions. Relief to the bowels took place on the 22nd day of treatment, but with no subsequent action, and on the 2nd of November the patient succumbed.

This gentleman had been successfully treated for four previous attacks :—two in 1871, one in February, 1873, and one in 1874; in all five attacks, which includes the last fatal one. I was unable to decide the immediate cause of death, as I failed to gain consent for a post-mortem examination. The treatment was the same in all the attacks.

Case No. 3.—On the 10th of June, 1876, I was called to attend W—— H——, 49 years of age. I found him suffering from tenderness over the abdomen, with slight distension, accompanied by vomiting, a furred tongue, thirst, and an irritable pulse. His statement was that he had been taken ill the previous afternoon with intense pain in the abdomen, and as the pain increased and the vomiting continued I had been sent for. I at once administered a dose of morphia subcutaneously; applied cold to the abdomen, and restricted the patient's diet, ordering him cold drink, limited in quantity. On visiting him the next day, 11th of June, the vomiting was not so frequent, but the other symptoms continued though slightly abated. I repeated the injections of morphia. On the 12th June, I found the general symptoms had much improved. I continued the injections. On the 13th, I found the symptoms continuing to improve and the distension and tenderness very perceptibly diminished. On the 14th, the vomiting had ceased, and the patient suffered but slight thirst. On the 15th, all the primary symptoms were absent, and I then prescribed a mixture of tincture of opium, a drachm in half a pint bottle of water, and ordered a table spoonful to be taken every

three hours. This he continued to take during the subsequent 8 days. On the 23rd June, the bowels acted copiously. After this the opium was continued for a week, his diet restricted, when his recovery was completed.

This I judged to be a case of enteritis ; probably, total abstinence from food, and limiting the patient to cold water to drink, and the omission of medicine, would have been sufficient in this case, with strict confinement to the horizontal position while in bed.

Case No. 4.—On the 31st of May, 1872, I was called to attend W—— G——, aged 40 years. This man had fallen from the mast head of a ship. I visited him in the evening of the same day and found him suffering from a severe injury of the spine, which had paralysed the lower extremities, and causing also retention of urine, which had to be removed twice a day for several subsequent weeks. On the 3rd of June, the patient began to be disturbed by frequent attacks of vomiting, the bowels became tender and distended, and the tongue dry. I judged these symptoms to arise from traumatic enteritis, and I commenced at the outset to administer morphia subcutaneously night and morning. The distension in this case gradually increased up to the 27th day after the accident, when spontaneous action of the bowels took place ; and was followed by a slight diarrhoea, lasting some days, though the opium was continued.

This patient recovered perfectly as regards the enteric complaint, but was two years before he began to regain power in the paralysed parts. The distension in this case was enormous, yet not at that time possessing sufficient confidence in the practice of trocaring the abdomen under such a condition I did not venture to practise it. This case reminds me of another one of traumatic enteritis, in which

here was enormous distension, which I saw about 14 years ago. I was called to attend a railway porter, a stout middle-aged man, who had been crushed between the buffers of two railway carriages, the force being applied to the abdomen, to the right, just above the umbilicus, smashing his watch, which was in his waistcoat pocket. The treatment I practised was opium, restricted diet, &c., and so averted the threatened symptoms of traumatic enteritis; and in the course of two weeks he was apparently well, and declined any further treatment. I cautioned him, but in vain, he commenced to feed himself with the usual routine articles of diet, and not being pleased with my previous warning, and thinking my restrictions an unnecessary curtailment of his liberty, he requested me not to visit him again; however, I was again sent for, but not until intestinal obstruction, with abdominal distension, had recurred, with sloughing of the abdominal wall corresponding to the position of the watch crushed, where I also noticed the intestine protruding and sloughed, and discharging its contents externally. This case was fatal through the want of ten or fourteen days further restriction from food, and in all probability the inflammation involved some portion of the colon, and the accumulation occurred in the cecum



with hyperdistension and gangrene of a portion of the colon. Had the surgeon in charge of the case during the second attack used the trocar, this mishap might probably have been avoided.

Case No. 5.—On the 11th of March, 1876, I was called to J——W——, 25 years of age, residing at Liverpool.—I found that the patient had been rather ill on the 7th of March, with an attack of what he and his friends thought was simply a bilious attack. For the three subsequent days they administered purgatives, which had only aggravated his symptoms. When I visited him I found slight distension and tenderness, and constant vomiting. I administered a dose of morphia subcutaneously, which had the effect of diminishing the vomiting, pain, and distension; and I ordered a mixture of tincture of opium, one drachm, in half a pint of water, a table spoonful to be taken every two hours. On visiting him the third day the symptoms were so far improved that the patient continued to take the mixture in diminished quantity, and rapidly recovered, having a spontaneous action of the bowels on the tenth day.—(This I thought was a mild case of enteritis.)

Case No. 6.—On the 15th December, 1874, I was called to attend a club patient of mine, Mr. P——M——, 32 years of age, residing at R——Street. I found him suffering from intense pain in the abdomen, attended with constant vomiting, which was stercoraceous in character. He had been sick some days, but judging that it arose from simple constipation he had used purgatives; consequently, I found the symptoms much aggravated when called to attend him. I immediately injected a  $\frac{1}{4}$  of a grain of morphia beneath his skin, and continued to do so twice daily, for three days, with the effect of diminishing the pain and decreasing the vomiting; but the distension increased. On the 4th day, I commenced to inject under the skin a  $\frac{1}{2}$  of a grain of morphia four times a day, and on the 6th day, finding the distension still increased, he was tapped with an ordinary bladder trocar with the effect of relieving him of a good deal of gas which collapsed the abdomen. On the ninth day the trocaring was repeated, the morphia being still continued. The use of the trocar was repeated at intervals of three days, and on four occasions in all. On the twenty-first day a spontaneous action of the bowels took place, the patient being much relieved; yet the opium treatment was continued for some days, and the symptoms gradually resolved, and the patient recovered.



During the treatment of this case, (the patient being an occupant of one of those filthy dens with which Liverpool abounds,) necessity compelled us to be satisfied with what nourishment was contained in a little cold water, in which a portion of Leibeig's extract of meat had been dissolved. This was the only nourishment the patient had during the whole time, and he consumed four one ounce jars of this commodity; and as an example of the knowledge of dietetics possessed by this man's partner, no sooner were the symptoms relieved than she prepared him a cabbage as a delicacy.

This is instructive as showing how well the patient progressed with all the disadvantages arising from primary purgation, filth, bad nurse attendance, vitiated atmosphere, and the absence of anything approaching comfort, beyond a hard bed, and a shed over head; but he had two great advantages, a very slight amount of nutriment was administered to complicate his case, and free administration of opium, which also assuaged his sense of hunger. These two latter assisted in bringing about resolution, which occurred at least one week prior to my expectation.

Case No. 7.—Mr. C—— of D——Street, consulted me on the 1st of August last, suffering from an attack of diarrhœa. I prescribed tincture of opium, muriate of ammonia, and chloric ether, and he got apparently better in the course of 7 or 8 days. On the 10th of August I was sent for, and found him suffering from severe pain in the abdomen, accompanied by vomiting, thirst, with tongue dry and furred, pulse 9 in 5 seconds. I injected a  $\frac{1}{4}$  of a grain of morphia under the skin night and morning. Advised cold drinks, beef tea, arrowroot and sago, made with water and linseed tea; his diet to be confined to these in an ounce dose, given every one or two hours, and cold water as a drink given frequently, but in small quantities. On the second day I found less tenderness of the abdomen, but more distension, diminished thirst, vomited once of a bilious character, pulse 8 in 5 seconds, continued the morphia subcutaneous injections night and morning. On the third and fourth days, more distension and slight thirst, pulse seven in five seconds, vomited once in thirty-six hours, not much pain. On the fifth day, vomited twice, pulse eight in five seconds increase of thirst, tongue slightly furred, little more tenderness, distension not increased; the dose of morphia was increased to  $\frac{1}{2}$  a grain under the skin three times a day. Sixth day, vomited only once in twenty-four hours; pulse seven in five seconds; less thirst; tongue clean and moist; no pain; distension not any less. This condition remained unexchanged during the seventh, eighth, ninth and tenth days of treatment. On the seventh day, the lower legs of the bed were raised a foot to elevate the pelvis, ease distension, and facilitate vomiting. On the eleventh day, vomited twice; the vomit being stercoraceous in character. Half a grain of morphia was given under the skin four times during this day; the pulse on this occasion being eight in five seconds, and slight increase of thirst. On the twelfth day he had diminished thirst, and had only vomited once in forty hours, the vomit was stercoraceous in character. Morphia was given under the skin three times this day. The condition and treatment continued the same on three following days. On the sixteenth day, though the distension was not so extreme as to make the use of the trocar urgently necessary, he was trocared with a No. 3 size trocar; a small volume of flatus escaped; no perceptible effect upon the abdominal distension; continued the morphia as usual, the vomiting being absent at this time for thirty-six hours. On the eighteenth day, vomited once, moist tongue, pulse six in five seconds, temperature ninety-nine and a half. On the twentieth day, accompanied by my friend Mr. Rushton

Parker, the abdomen was trocared again ; about five ounces of fluid escaped and some gas. It had slight effect upon the distension, which was, however, not very extreme. On the twenty-first day, the vomit ceased to be sterco-raceous, becoming rather serous in character, and occurring once in twenty hours. During the twenty-second, twenty-third and twenty-fourth days, the pulse varied during these days from six to seven in five seconds, temperature ninety-nine to ninety-nine-and-a-half. September 3rd, the 25th day, action of the bowels occurred, and a motion of about 1 lb. of pultaceous fœces was passed, distension of the abdomen perceptibly diminished ; pulse seven in five seconds, tongue moist, very slight thirst, slight pain. On the twenty-sixth day there was no change, the morphia treatment was intermitted for a day. On the twenty-seventh day only  $\frac{1}{2}$  a grain of morphia administered once during the day. On the twenty-eighth day increase of the distension, with a good deal of pain, pulse became small, and nine in five seconds ; administered  $\frac{1}{2}$  a grain of morphia three times a day. On the evening of this day, assisted by Mr. Rushton Parker, I trocared the abdomen, and removed a quart of sterco-raceous fluid which diminished the distension, and after so doing administered a grain of morphia under the skin. About two hours after, the patient vomited fluid, not sterco-raceous, and passed per rectum in one hour after the last vomit fully three quarts of pultaceous stool. In three hours after this evacuation, I was summoned to see him at two a.m. on the twenty-ninth day, and found him very prostrate, pulse ten in five seconds, abdomen perfectly flaccid and hollow, no appearance characteristic of collapse, but great pain. I administered  $\frac{1}{2}$  a grain of morphia per mouth, as he expressed himself in much pain. The pain, I was afterwards informed by his attendant continued up to 8 a.m., when he died.

My friend Mr. Rushton Parker did me the favour of making a post-mortem examination of the abdomen.

“Body spare, belly flat. Whole surface of peritoneum shining, and injected, except at contiguous margins of the intestines, which adhere by the medium of a little puruloid lymph. In the belly, about a pint of thin, tumid fluid, coils of small intestine occupy the entire front of the abdominal interior and lie chiefly transversely. A

double coil lies above and in front of the omentum, the tip of which occupies the internal inguinal aperture, whence it is easily withdrawn. The whole of the colon is collapsed ; the rectum is little distended. The small intestine is everywhere slightly distended with fluid, and its walls moderately thickened. At the ileo-cæcal portion is a hard nodule, consisting of an annular thickening of the bowel about  $\frac{3}{4}$  inch long, and on being slit, invagination of ileum. The layers of bowel are firmly united together by fibrous tissue, which completely seals over and smooths the peritoneal part of the fold, one half of the circumference. The thickened portion has a canal through it, about large enough to hold a cedar pencil, and here the mucous membrane is quite red, and covered with a little fecal matter. No trace of the vermiform appendix remains, nor can the ileo-coecal valve, or anything representing it, be recognized. Left kidney was completely atrophied, right one much enlarged but healthy ; no examination was made of the thoracic viscera."

From which it may be noticed that the part intussuscepted was patent and involved the ileo-cæcal valve ; there was no trace of the punctures of the trocar. The prior history of this case throws some light on the real cause of death. He had been my patient for nearly twelve years ; first, fractured leg, then syphilis, rheumatic fever, erysipelas of leg, ulceration of leg, and frequent ailments of short duration; and had been at one period irregular in his habit of living. All these antecedent complaints had depreciated his store of vitality, so much that he had not in store sufficient stamina to outlive the test this serious lesion involved. Dr. Brinton, in "LANCET," vol. i, 1863, gives a case typical of this one, where the patient's cachexia solved the cause of death. My case also

was one in which the sufferer was much enervated from years of previous occasional ills. In the treatment of this case I have thought since that the omission of the morphia on the 26th day was not advisable. Again, when summoned to see him on the 29th day, at 2 a.m., it would have been better practice had I given the morphia subcutaneously, as from the evidence of the attendant I afterwards learned it had no effect by the mouth; but noticing the marked remission of all the symptoms of obstruction, this fact induced me to relax some of my vigilance, and to give the morphia by the mouth, a method I am certain, is frequently useless. Again, on the 25th day after the first action of the bowels, I placed the patient horizontally, which I fear induced greater mechanical pressure at too early a period; this I judged from the symptoms which followed at the time, and consequently restored him to the inclined position on the 26th day, with marked improvement, so that I was induced to omit the morphia that day. I prognosed that this was a case of intussusception,\* and the post-mortem confirmed my diagnosis, which might be more strictly expressed as a surmise rather

\* Though intussusception is usually followed by some degree of inflammation and adhesion at the primary portion of the invagination, yet intussusception has occurred without any adhesion at the primary portion of the invagination. This latter condition of invagination is extremely rare, and requires



than a diagnosis; and those only, in my opinion, who have had frequent opportunities of watching these cases, know the uncertainty, and are alone able to guess the nature of the obstruction. It appears to me that experience only can guide the practitioner to indicate which of the many causes of obstruction that may exist, the symptoms attached to the varieties of occlusions being so much alike, and differing but slightly, and palpable only to the accustomed observer.

Case No. 8.—On December 16th, last year, at midnight, I was requested to go on board a Swedish vessel, in the Salthouse dock to render professional assistance to one of the crew. On boarding her, I found the steward in great pain. His previous history was, that while “straining at stool,” he felt a sudden pain in the right iliac region, no diarrhoea, thirst, slight acceleration of pulse. The captain, on the occurrence of the pain, had given him a dose of Epsom Salts. This he vomited immediately. My examination of the patient was made in about one hour after the accession of the pain. I at once injected under the skin a  $\frac{1}{4}$  grain dose of morphia, advised abstinence from all food, and allowed a limited quantity of drink, frequently repeated when required by the patient. Next day, at 9 a.m. my assistant visited him, with instructions that if in pain, to inject  $\frac{1}{8}$  of a grain of morphia. This dose was given, and at 4 p.m. visited him myself, and was informed that he had vomited twice (but slight in quantity) during the

no exceptional treatment, even if it were possible to diagnose it. Consequently, the practice of injections of water per rectum, or inflation with air or gas would probably be a “kill or cure” experiment. A recent number of the “STUDENT’S JOURNAL,” vol. v., page 44, reports a case that forcibly illustrates the danger of interference per rectum after the first few hours. In that case, hydrostatic pressure was employed, the pressure used being that of a column of water four feet high—perforation of intestine resulted.



night. The iliac region was still tender, slight thirst, pulse accelerated. I now again injected a  $\frac{1}{4}$  of a grain of morphia under the skin, previous details as regards diet and drink to be adhered to. Third day visited and found that he had vomited once only since my last visit, all the other symptoms being the same as those present on the second day. Now advised removal to my hospital, but before removal injected a  $\frac{1}{4}$  grain of morphia, 2 p.m. In the evening visited him at the hospital, and found the tongue more furred, no increase of distension, tenderness still present, on pressure of the iliac region, temperature 100, pulse as before, had vomited once this evening repeated  $\frac{1}{2}$  a grain of morphia. On the fourth day, at 9 p.m. injected  $\frac{1}{2}$  a grain of morphia, symptoms present during this day, pulse no change, no vomit, tongue furred, slight tenderness and distension, less than had hitherto existed, temperature 102. In the afternoon he passed suddenly a very copious liquid stool. No food was allowed until the fourth day; a little arrowroot and water and beef tea was allowed this day in response to the patient's request, and another  $\frac{1}{2}$  grain of morphia was administered under the skin at 10 p.m. Fifth day, 9 a.m., gave  $\frac{1}{2}$  a grain of morphia under the skin; at 12 noon, passed a copious pultaceous motion, pulse 7 in 5 seconds, temperature 101, tongue furred, no vomit, slight thirst,  $\frac{1}{2}$  a grain of morphia given at 6 p.m., not the slightest tension of the abdomen, but slight pain in the right iliac region on pressure. Sixth day, had during night passed several small pultaceous motions, pulse 7 in 5 seconds, temperature 99, tongue less furred, no distension, pain in the region diminishing, no morphia given in the morning, patient wanted to return to Sweden, but with the assistance of two other medical friends he was persuaded to remain another week; 10 p.m.,  $\frac{1}{2}$  grain of morphia under the skin, as there was increase of pain. Seventh day, pulse and temperature normal, tongue correct, no thirst, pain only on firm pressure of iliac region, bowels acted three times during the day;  $\frac{1}{2}$  grain morphia was given at 10 p.m., same diet continued. Eighth day, apparently well, but still slight pain on firm pressure, continued same diet, and  $\frac{1}{2}$  a grain of morphia under skin at bed. Ninth day, all abnormal symptoms absent, and the evacuations passed appeared of normal consistence, though small in bulk, indicating that all accumulated liquids had been passed, consequently the conditions permitting the spurious diarrhoea which often follows relief of obstruction existed no longer.

Never before had I been consulted so early after the accession of the symptoms of intestinal difficulty

as on this occasion. In this case I prescribed in one hour after the commencement of the obstruction, as indicated by pain. This case was well on the sixth day. How early relief of obstruction can occur it is difficult to say. Sales-Giron's experiments show that about the fifth\* day in the dog, resolution takes place even in one of the most serious forms of intestinal obstructions.

Case No. 9.—Case of the young man at the Boys' Home.—The patient, a young man 20 years of age, on the 8th of January last, partook of a hearty meal of hashed flesh and vegetables, at 7 p.m., but two hours after going to bed he was awakened with a great pain in the left hypogastric region, which was soon followed by vomiting, which continued during the whole of the two following days, the 9th and 10th. On the evening of the latter day a message was sent to my house, which however was not delivered to me. On the morning of the 11th a second message was sent, on the receipt of which I at once visited the patient. I found him in bed, in a stooping position, which he had assumed in order to get some relief from the pain he was suffering.

\* The "MEDICAL, PHYSICAL, AND SURGICAL JOURNAL," for the year 1823, contain a report of a case of invagination of the small intestine, reported by Mr. T. Bush, in which the obstruction ceased on the fourth day, and on the eighth day a piece of gut fifteen inches long was passed per rectum. Mild aperients were given in this case. Records and observation incline me to believe that while it is possible for invagination of a portion of either the small or large intestine to separate so early as the fourth day, yet intussusception involving the ilio-cæcal valve would take a longer period, as intussusception involving this part is more serious than when it occurs in any other locality. Annular stricture, though to make this artificial stricture the dogs had to be gastrotomized, had one advantage, mercifully, the benefit of an expectant treatment. Those who cannot be convinced of the value of the opium method will find their success increased by an expectant one compared with the "all sorts" treatment now in vogue.

On examination, I found the tongue furred and the patient suffering great thirst, with constant vomiting, accompanied by acute pain in the left hypogastric region. The abdomen was tense, with moderate distension, pulse 10 in 5 seconds. This was his condition at 10 o'clock in the morning of the third day of the attack. I immediately injected under the skin  $\frac{1}{4}$  grain of morphia, which at once arrested the vomiting. I visited him again at 11 a.m., and found the same symptoms present with the exception of the vomiting, which had ceased; injected another  $\frac{1}{4}$  grain of morphia. At 2 p.m. there was no relief of pain. At 11 p.m. the pain still continued, and the patient had had no sleep. I injected  $\frac{1}{2}$  a grain of morphia, the pulse being 9 in 5 seconds. There was no vomiting. January 12th, 10 a.m.—The patient had slept a little during the night, pulse 10 in 5 seconds, thirst and furred tongue, temperature 102, a slight diminution of pain, no vomiting. I injected  $\frac{1}{2}$  a grain of morphia and had the foot of the bed raised two feet. which latter was followed by a marked relief of pain, so much so that the patient began to sleep before the opiate could have had time to have any effect. At 5 p.m. the pulse was 8 in 5 seconds, and the pain was much diminished though the abdomen was still tense. The patient expressed his gratitude for the relief he derived from the inclination of the bed. At this visit injected a  $\frac{1}{4}$  of a grain of morphia. At 10 p.m. I found the pulse 9 in 5 seconds, temperature 100. I tried the effect of lowering the couch, which was followed by an increase of the hypogastric pain; it was, therefore, restored to its previous height.  $\frac{1}{2}$  a grain of morphia was injected at this visit. January 13th, 10 a.m.—Pulse 9 in 5 seconds, temperature 100, tongue improved, abdominal distension as before. Had slept a little during the night; 12 noon, pulse 8 in 5 seconds, no pain but slight thirst. Had not vomited since the first day of my visiting him; 11 p.m., I was accompanied by Mr. R. Parker. We found the pulse 9 in 5 seconds, temperature 101 $\frac{1}{2}$ , distension moderate, pain only when disturbed. I injected 1 grain of morphia. January 14th.—Pulse 8 in 5 seconds, temperature 101, distension diminished, no pain, bed had been lowered; the patient had slept well during the night, no vomiting. 12 noon.—I injected  $\frac{1}{2}$  a grain of morphia. 10 p.m. continued the morphia. There was no pain, no vomiting, and no action of the bowels had yet taken place since the first day of the attack. Had slept a good deal during the day. Injected  $\frac{1}{2}$  a grain of morphia. January 15th.—Pulse 7 in 5 seconds, temperature 98 $\frac{1}{2}$ , distension much diminished, slight thirst. Had slept well during the night; no vomiting

and no pain. Injected  $\frac{1}{2}$  grain of morphia. 11 p.m., distention diminishing, no pain, pulse 7 in 5 seconds; no vomiting. January 16th, 10 a.m.—No distention, pulse 6 in 5 seconds, no pain, no vomiting, neither action of the bowels. At 2 a.m. however, of this day, the 8th day of the attack, the patient's bowels acted, the stool being of natural consistency. At 11 p.m. pulse 6 in 5 seconds, no pain or thirst; injected  $\frac{1}{2}$  grain of morphia. January 17th 10 a.m.—Pulse and temperature normal, no distention or pain; the bowels had acted. At 8 a.m., fœces pultaceous in character. January 18th.—On this day the patient was allowed to leave his bed, with instructions to restrict his diet, and having by this day secured, as I thought, perfect recovery. January 19th.—Was sent for in the evening, the patient being reported as not feeling well, and on arriving at the Home, was informed that the sufferer had disregarded my advice, and regaled himself at noon with a hearty meal of hot toasted bread and tea, with the effect of causing some return of the hypogastric pain. I interdicted all food, and gave him a course of subcutaneous morphia during the 20th and 21st of January, with the result of arresting the recurring symptoms, and by a more strict surveillance of the patient by the superintendent of the Home, he recovered perfectly.

Case No. 10.—J——C——, Ashwell Street, a ship scraper (paint scraper) was visited by me July 1st this year. I found him suffering from painter's colic. His previous history was that during the week preceding my first visit he had suffered from slight colic symptoms, but July 1st became much worse when he took castor oil to remove some evil that he supposed to be in the abdomen. This purgative was taken in the early morning, the castor oil he vomited, and then tried a dose of jalap; this again returned immediately. Finding his own skill not of any benefit to him, he sent to request the aid of the medical officer of a neighbouring dispensary, who promptly attended and gave him every attention, and prescribing Mist Senna Co, to be taken at stated intervals, but with no better result, as the vomiting and pain continued up to midday, July 2nd, when I visited him and found him in great pain, vomiting occasionally, lead line on the gums, all the symptoms of lead colic; and, on enquiry, I found that he had been employed all the previous week (and was often) in scraping lead paint from the bottom of iron ships. I commenced treatment by restricting his diet, and a subcutaneous dose of morphia, which dose was repeated July 3rd and 4th. The vomiting and pain ceased on the first day of my visit, and a very copious pultaceous discharge



per rectum occurred on the evening of July 4th, after which for a few days he took a mixture of tinct. opii one dr. to  $\frac{1}{2}$  pint of water, of which he took an ounce three times a day ; and, after the 7th day, required no further medical supervision.

This patient was most unwilling to omit purgatives whilst under my care, holding fast to the belief that the proper course to pursue, was to "storm" a "right of way," but I firmly insisted upon, and also predicted what would happen if he did not accept my advice ; consequently, on the fourth day he was most lavish in his expressions of confidence.

Case No. 11.—During the early quarter of this year I was requested to visit a case at D—— S——t, as a patient who had previously consulted me at my house for an injury to the arm was now taken ill ; but, being engaged as a witness in a public enquiry, I expressed my doubts of being able to go, and was not able to visit the sufferer that day. On receiving a second message on the following day, I visited the patient at once, and found the patient suffering from typhlitis symptoms, pain in the right hypogastric region, furred tongue, thirst and nausea. The treatment was commenced by morphia, subcutaneously administered, with an occasional dose by the mouth and restriction of diet. This treatment had the effect of alleviating the pain ; tongue became clean, thirst diminished. About the sixth day an enema of one pint of water was given, which produced a slight motion. About the tenth day another enema was administered, but no fœces came away. About the 14th day (though doing well) the patient became anxious, and suggested that a consultation should be held, the patient having selected the consultant, a council was held over the patient, and the consulted, not professing to understand the case, but as usual with some looking on the constipation with suspicion, pressed me to try what has been termed by one of our Hibernian brothers a "muzzled purgative,"—castor oil and opium. This was given with the effect of aggravating the previous symptoms, but produced a copious discharge per rectum. The aggravation of the symptoms naturally made a second consultation appear very necessary in the opinion of the patient's

friends. In the second consultation, the gentleman consulted was so forcibly impressed with the aggravation of the symptoms that he inclined to suspect malignant disease, as he could not otherwise account for the succeeding symptoms.

Here terminated my interest in the case ; for when the consultation was over the relatives of the patient hinted to us their doubts of my ability, &c. ; and as I was not supported by my colleague, I handed the case to him, who received it with "gladness."

This was to my mind undoubtedly a case of typhlitis, and had the opium method with restriction of diet been continued from four to six days longer the patient would have been convalescent. It will be noticed in the rough report of this case that two enemata were given on my own responsibility. My friend, Dr. Hardman, of Blackpool (who appears to have seen several cases of typhlitis), with whom, sometime ago, I had the pleasure and instruction consequent on an exchange of opinion as regards the subject matter of this paper, confidently maintained that the administration of enemata in this lesion was not injurious, and could be frequently repeated with no risk. Knowing Dr. Hardman to be a careful observer, I had confidence in deviating from my usual practice, and certainly with no harm or appreciable discomfort to



the sufferer, but after administering the purgative, though it was "muzzled with opium," its attendant and subsequent results were by no means of the muzzled type—so much irritation did the aperient give rise to, that the consulted suspected malignant disease on observing the result during his second visit. Typhlitis is no exception as regards the principles of treatment.

Case No. 12.—A ship carpenter, aged 64 years, residing at H—— S——t, was taken ill with the usual symptoms of enteric fever, and a few days after with pneumonia. The only therapeutical treatment practised was small doses of opium and digitalis, and restriction of the diet—no preliminary purgation. About the seventh day, there being some slight abdominal distension, his wife asked me if I would permit a purgative to be given, as he had been 7 or 8 days constipated, and also informed me that some years previous his bowels became constipated, and that it was only after the cojoined labour of three medical gentlemen, who laboured with remedies per mouth and rectum for many days that the bowels were induced to act. I explained my views, in which she concurred, and purgatives were omitted. The distension varied at times, but was never much; and on the 16th day, spontaneous action of the gut occurred. The opium and restricted diet was continued for 4 weeks, the intestines acting every 4 or 5 days.

This man made an excellent recovery.

Case No. 13.—A man, following the occupation of plasterer, residing in N—— S——t, suffered from an attack of enteric fever. I was introduced to this case in time to hinder any preliminary purgation. During the fever condition he had an attack also of bronchitis. The enteric lesion was accompanied by a moderate amount of distension and tenderness of the abdomen on percussion. The constipation in this case could never be maintained longer than 4 to 5 days, when slight diarrhoea would occur, necessitating slight increase of the opium. The diet had to be restricted for 8 weeks, as any return to the ordinary articles of routine diet was followed by the recurrence of distension and tenderness, which had subsided during the 4th week.

Case No. 14.—A boy, aged 10.—Wellington Road, Wavertree. This boy had been brought to me occasionally for my advice as to the treatment of a hip joint affection of which he was well after 3 years treatment, during which abscesses had formed. This year he was taken ill with enteric fever. Being called in early to see him, no preliminary purgatives were permitted; he was treated by small doses of digitalis and opium, and restriction of diet. Extreme distension of the abdomen occurred in this case, and the parents were at one time most anxious to be allowed to administer an aperient, but on explanation to them of my opinion, they submitted to my judgment, and spontaneous action of the bowels occurred about the 14th day, and afterwards occurred about every 4 days, diet restricted for four weeks, and the patient made a rapid recovery.

Case No. 15.—A young lady, while returning from a central part of the town to her home near the suburbs, was knocked down by a ruffian, which caused some slight injury and general shock, to treat which I was called to the patient. After a few days attendance symptoms appeared not explicable as arising from the slight injury she had received; and on making a careful enquiry as regards her health previous to the accident, it transpired that she had suffered from diarrhœa for 2 days previous to the injury, and symptoms indicative of enteric fever developed themselves—no preliminary purgation was practised. The enteric lesion was treated by morphia 1-16th of a grain under the skin night and morning. This patient was not tolerant of any remedy by the mouth, what she took in the way of food (restricted) was retained and enjoyed. Spontaneous action of the bowels occurred about the seventeenth day—diet was restricted for four weeks. The abdominal tenderness and distension was moderate in this case; she recovered rapidly.

In none of these four last reported cases, 12, 13, 14, 15, was any primary purgation practised. In the three first opium was given by the mouth with digitalis. In the last opium alone was given and that subcutaneously—the diet was carefully restricted. Diarrhœa threatened in one case, but was easily

controlled by a slight increase in the dose of opium. In these cases the omission for a few hours of the prescribed dose of opium caused the tongue to be dry and furred, with increase of thirst, and accelerated pulse. These four cases occurred during this year, and illustrate my usual treatment of the enteric lesion of typhoid fever.

It is probable that many do practise what I here advocate as the course to pursue with the intestinal lesion of typhoid, but it is only too evident from our public journals that those who are admitted to be authorities in this special question do not. A perusal of the "PRACTITIONER," vol. xiv., for example, published so late as 1875, shows that some do practise an opium method (with diet partially restricted) unknowingly; as, for instance, at page 161, vol. xiv., of the "PRACTITIONER," simple diarrhœa and that of enteric fever are said to be treated by castor oil emulsion, but on reading the paper, it is very plain that it was an opium method, as to 2 drops of castor oil was added 1-16 of a grain of morphia, surely an effectual extinguisher to the 2 drops of oil, being a proportion of about 1-240 of a dose of oil to a quarter of a dose of morphia — an extreme disproportion.

Many practitioners have of late advocated an expectant method in this fever. This policy may be good compared with what is the usual practice but treating the enteric lesion by opium, and ignoring the blood poisoning, will both please and astonish those who are strangers to this mode, which may be termed the "Sydenham method."

## S U M M A R Y .

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1.—The conclusions I have arrived at since I have interested myself in the history, causes, and treatment of Intestinal Occlusions are, first, that we have retrograded during the period that has elapsed since Dr. Sydenham published his opinions and practice of an opiate treatment.

2.—That the causes which give rise to gut obstructions may be, traumatic, irregular peristaltic action, straining, lead poisoning, ingesta, inflammation, prolonged drastic purgation, and mechanical derangement, as volvulus, rent in mesentery, hernia, &c.

3.—From the category of obstructions I exclude a merely loaded rectum, which usually arises from neglect on the part of the patient to respond to the call of nature, and which can be at once detected by digital examination per rectum, and by the parturient character of the symptomatic pain. This condition is an extremely rare complication following obstructions treated by opium and restricted diet.

4.—Treatment may be briefly stated as a method which involves a restriction of the quality and quantity of food, with limited libations and restraint of peristaltic action in the normal portion of the gut.

5.—That early relief of constipation, and gradual diminution of distension, indicate enteritis or peritonitis, and the more the constipation is prolonged, the more fluid the evacuation when it does occur. Again the relief of constipation is not a trustworthy sign that the patient is no longer in danger.

6.—That distension and pain are to be averted if possible, and when present diminished if practicable. The symptoms of constipation are to be ignored in treatment, as the more prolonged the constipation the more fluid the evacuation when it does take place.

7.—When vomiting has been absent from 2 to 3 days, it is highly probable that the gut is patent, though there be no evacuation of the gut contents per rectum; as the contents below the obstruction, if not already of pultaceous consistence, have to be subjected to the same process as occurred to the contents above. As soon as this has been effected the opium will no longer constipate.

8.—That semi-fluid fœces do pass through the abnormal part before peristaltic action has returned to it; diminution of vomiting is to be aimed at, yet its total cessation, while the obstruction exists, often precedes collapse. The character of



the vomit is not a serious symptom, if it is not too frequent.

9.—That a stercoraceous vomit is not per se a serious symptom, though of value as a diagnostic symptom, indicating undoubted obstruction, and also that the solid contents of the gut are undergoing the process of reduction of consistency and expulsion upwards, and thus relieving the pressure from the point of occlusion.

10.—There should be no interference per rectum, after the first few hours. The indications that should guide us in the use of the opium are, the pulse, vomit, and pain. Opium, when given in sufficient doses, decreases the frequency and increases the volume of the pulse, and makes the act of vomiting more seldom and copious, while pain is sometimes totally relieved without producing stupor. The treatment of typhlitis is no exception to the rules laid down.

11.—The diet should be carefully regulated for a period after, as well as previous to, the resolution of the difficulty.

12.—Those therapeutical remedies which are injurious, as well as those that have a beneficial action, can act only through their effect on the healthy portion of the intestines. We possess no

remedy that will affect the obstructed part, except interference by operation.

13.—That trocaring a distended colon is necessary if accumulation is straining the ilio-cæcal valve. This may be suspected by a change in the locality of the pain, viz., from the epigastrium or left hypogastric region to the right hypogastric region.

14.—That there are only two indispensable remedies required for the treatment of these difficulties—opium and gastro-enterotomy. The former is indicated in every case, while the latter is required when symptoms show that the former must fail.

15.—When operative interference is indicated that advised and practised by \*Nelaton is the most advisable, viz., to incise the abdominal wall in the right side above Poupart's ligament, attach to the incision the first distended coil of intestine that presents itself; then puncture the gut and ignore the primary difficulty. This operation is easily performed, adds but little if any to the danger; and

\* Nelaton was not the first, though he appears to have generally practised this operation for the relief of obstruction (non-malignant cause), as it is on record that Mr. G. Freer, of Birmingham, also Mr. Daniel Pring, of Bath, performed the operation of gastro-enterotomy for the relief of obstruction of a non-malignant cause. This was in the years 1817-1820.

should it be performed on patients in progress to recovery (unnecessary operation) I cannot believe that it can add any to the patient's difficulty.



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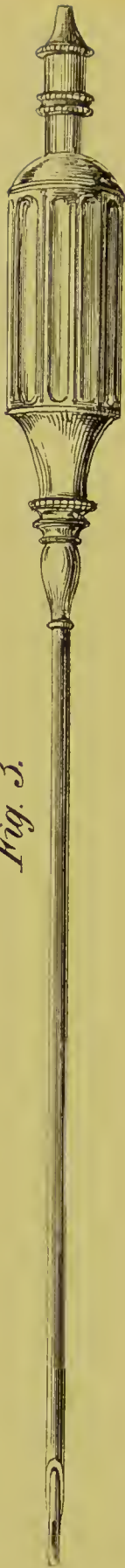
*Fig. 1.*



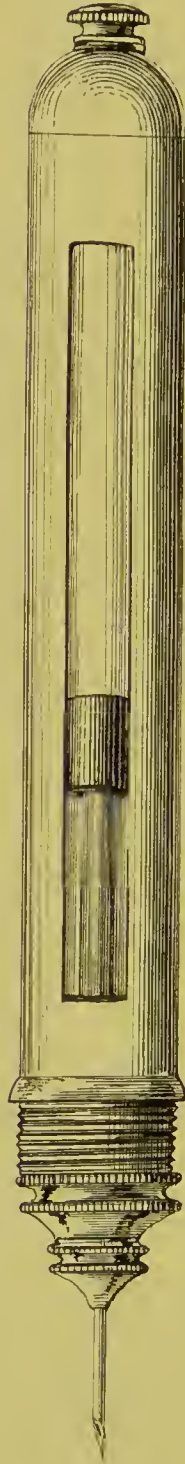
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



### PLATE I.

Fig. 1 shows male canula to fit trocar (fig. 2.)

Fig. 3 represents canula and trocar combined.

Fig. 4 is a full-size drawing of subcutaneous syringe, which is so constructed that it can be charged with several doses of the drug, the dose is regulated by the withdrawal of the piston, thus combining a cutaneous syringe and reservoir for the medicine.

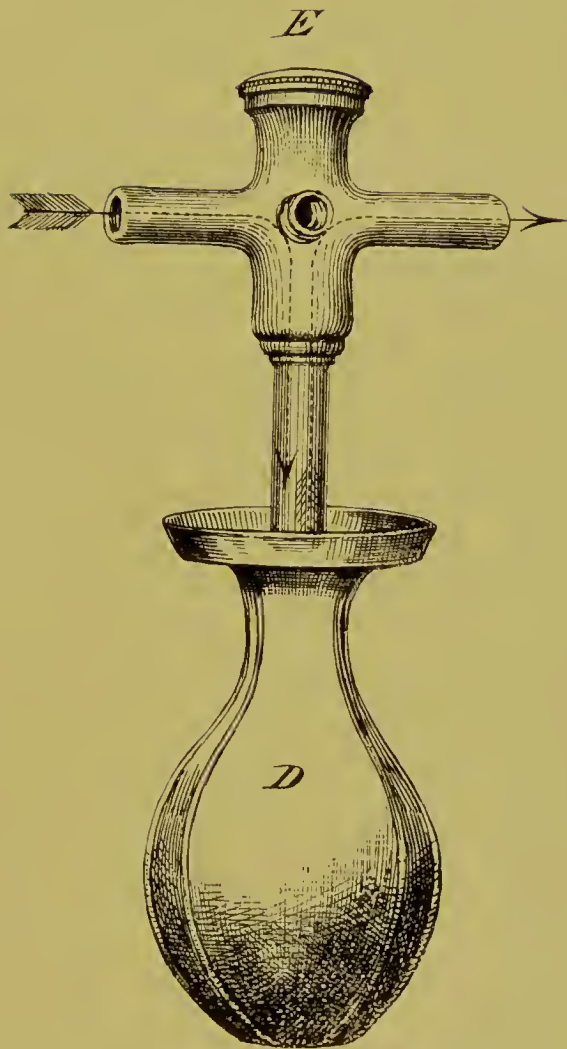
Fig. 5 represents cap to protect the needle, with ring to attach to watch chain, or as may be most convenient.



## PLATE II.

Represents an aspirating pump, which I designed, and which was made for me by Mr. Reed, of Harrowby Street, Liverpool, and can, if needed, be attached with rubber tubing to canula and trocar, shown in plate 1. E indicates the cap of oiler; D the exhausting force or rubber ball; the centre opening always discharges the aspirated liquid, the suction force can be applied to either end (right or left arm). I have used this for a long time, and can recommend it as simple, will last many years, even if in use many times daily, or if laid aside for a time, is always in order and ready for use, cannot possibly get out of order, it can also be used as an enema or stomach pump.

PLATE 2





## APPENDIX.

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After a perusal of the preceding treatise some readers may think that I have some special antipathy to purgation, but I assure them this is not my bias. There are a multitude of ailments and symptoms in which a free purgation is of vast assistance, giving relief promptly, and long ere such relief could be obtained by the unaided method of nature ; as, for example, when a patient suffering from simple constipation consults his medical adviser concerning symptoms of headache, giddiness, thirst, with loathing of solid food. If this loathing of solids is treated by abstinence, while the thirst is quenched by liberal draughts of water, this treatment will, in the course of a few days, be followed by a discharge from the bowels of their fœcal contents, but when no obstruction beyond simple accumulation exists, this can be effected in a few hours by an aperient, or in a few minutes by enema, and thus early relief of attendant symptoms will be obtained. It would be folly to wait for action by the Method of Nature ; the mode of

action of which method is TO MAINTAIN A DISPROPORTION BETWEEN THE SOLIDS AND LIQUIDS CONSUMED, THE LIQUIDS BEING DEMANDED BY THIRST, AND THE SOLID ALIMENTS REJECTED BY LOSS OF APPETITE. This is also the explanation of what has been observed, that a free evacuation of the gut contents above the obstruction may occur, though an obstruction to the passage of fœces of ordinary consistency remains, and it also explains and disposes of the reported efficacy in some cases of enemata in obstruction,\* and, again, shows why opium after a certain time cannot prolong the constipation; viz., at the period when the intestinal contents have been much reduced in consistency, Case No. 7 in the preceding paper is an example of complete evacuation of the gut above and below the obstruction previous to correction of the difficulty. In that case the abdomen, was much distended and very prominent for many days, yet in a period of two hours, it was so relieved of its contents that it became extremely concave in form. Again, in the case referred to at page 8, enemata were

\* Those who practice enemata and inflation in occlusions ignore the fact that it is not possible to fill or distend more than a part of the intestines, as the too limited area of the abdominal cavity does not permit of a simultaneous distension of the whole tract.

used on the first, second, third, and fourth days, and the bowels were unloaded on the fifth day, the medicated enemata of the fourth day being credited with the result, though the result arose from nature's method, which in this instance demanded at least five days, and as the unreasonable practitioner would allow no longer time, nature did the duty at a serious risk to the patient in a shorter period than she would have preferred, so as to ensure safety. This case was not a serious one, as may be inferred from the patient's tolerance of the treatment, in which the main force method was in full force, but despite all this, recovery occurred.

The case discussed at page 7 is another example of a difficulty where all interference was in vain, until nature had done her share, and though the gut contents were brought away on the 14th day it was at a great risk to the patient's life ; for had an expectant method been practised, the bowels would have acted perhaps 10 days later, but with less suffering to the patient and less risk to his life. I hold the opinion that relief of the loaded bowels early or late depends upon the size of the diminished calibre of the gut and the condition of the intestinal contents, as well as upon the paralysed muscular coat of the intestinal tract, occurring in peritonitis, enteritis, (phlegmonodea) where the calibre is much less dimi-



nished (the muscular coat arrested in its function by œdema) than in intussusception, consequently, fœces of greater consistency can pass, and the bowel is emptied earlier.

In intussusception the calibre of the gut being much more reduced, a longer process of solution and accumulation must occur, and it can be observed that there is in most of these cases less thirst from more accumulation consequent on more complete obstruction.

The opium method of treating obstructions of the gut is a means of supplementing the efforts of nature, diminishing the frequency of vomiting, and favouring a longer retention of fluids; thus the thirst is abated and the solids contained are subjected to longer periods of uninterrupted disintegration, and the vomiting when it does occur, may bring with it more ingesta.

There must have been a time before the genus homo had made any discovery in therapeutics, and most of my readers will admit that though there are many diseases he has now that did not trouble him in early times, yet constipation is a difficulty that might have occurred to primeval man, and the fact that its relief can occur without the assistance of art rather favours the opinion that it was always one of the ills "that flesh is heir to."

and this symptom was, no doubt at this early period, relieved by an expectant method, viz., by indulging in liquid, abstaining from solid. I here give several clinical illustrations of this :—

July this year I was called to visit a patient at Beaufort Street, and found him suffering from shock, after copious and repeated hemorrhage from the bowels, which had occurred during the two days previous to my visit. Prescribed morphia and ergot ; prohibited all solids, confined his diet to beef tea, arrowroot or sago and water. This treatment was continued four weeks: bowels acted on the 22nd day, and continued to act two to three times a day for a week. At no time was there any abdominal distension.

Some time about the middle of last year I was requested to visit a lady in Erskine Street, who, on the day of my visit, had hemorrhage from the stomach. I prescribed morphia and astringents, with restricted diet, but as the stomach did not tolerate the remedies, treatment was changed, and gallic acid prescribed ; this was continued for some weeks, diet limited, at first been allowed tea, arrowroot, and sago and water, subsequently, mutton and chicken broth with and without pea flour, was added to her diet. Spontaneous action of the bowels took place in the fourth week.

Some three years ago I was invited to visit a sick man in a Street out of North Hill Street, in this town, and found him suffering from general debility and among many symptoms he drew my attention to was the one of constipation. His previous attendant was an herbalist, and had prescribed a decoction of mountain flax to relieve the constipation. The patient showed fœces passed that day after a dose of the flax decoction. It was hard, smaller in diameter than the normal size, and about seven inches long. On examination of the abdomen it was slightly distended ; no tenderness on manipulation. Morphia and muriatic acids were prescribed, and his diet restricted, and after a few days constipation the stools became pultaceous in consistency and acted about every third day.

These cases are illustrations of my proposition. I could narrate many such, but as my readers can

with safety practically verify my views it is unnecessary to give further examples, but there is one special case of well known details, and that I will refer to, viz., the men immured at the Tynewydd Colliery, Pont-y-prydd. These men (5) were isolated for two hundred and fourteen hours, (BRITISH MEDICAL JOURNAL, May 18, 1877). For nearly 9 days, their sustenance was limited to water alone, yet spontaneous action of the bowels occurred "once during their incarceration." One, J. T., suffered from diarrhœa. Unaided action of the bowels also occurred to four out of the five during the first and second days after their liberation, i.e., the probable period under the conditions imposed by their incarceration.

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